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STATE OF SOUTH CAROLINA

REPORT

OF THE

STATE COMMISSION OF FORESTRY

FOR THE YEAR

JULY 1, 1979 TO JUNE 30, 1980



LEONARD A. KILIAN, JR., State Forester

COLUMBIA, S. C.

Printed Under the Direction of the
State Budget and Control Board

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*To Honorable Richard W. Riley, Governor and to the
General Assembly of South Carolina:*

Sirs:

Pursuant to Section 3 of Act of General Assembly creating the State Commission of Forestry, approved April 26, 1927, which provides that the Commission shall "inquire into and make annual report upon forest conditions in South Carolina, with reference to the preservation of forests, the effect of the distribution of forests upon the general welfare of the State, and other matters pertaining to the subject of forestry and tree growth including recommendations to the public generally as to reforestation," I have the honor to submit the report of the Commission for the period of July 1, 1979 to June 30, 1980.

Respectfully submitted

STATE COMMISSION OF FORESTRY

A. Brandon Taylor, Jr., Chairman

STATE COMMISSION OF FORESTRY

A. Brandon Taylor, Jr., *Chairman*

S. C. STATE COMMISSION OF FORESTRY

MEMBERS OF THE COMMISSION

A. Brandon Taylor, Jr., *Chairman*, Spartanburg

C. H. Niederhof, *Vice Chairman*, Charleston

Joseph C. Woodard, Sr., Eastover

Howard P. Rhodes, Estill

M. Calhoun Colvin, Holly Hill

Boris Hurlbutt, Walterboro

Gary H. Slavens, Florence

Eugene H. Kneece, Jr., Aiken

Dr. William L. Atchley, *President*, *Clemson University*, Clemson

State of South Carolina

S. C. State Commission of Forestry

A RESOLUTION

WHEREAS Act 449 was approved by Governor Richard W. Riley on April 22, 1980, after having been passed by the House of Representatives and the Senate of South Carolina; and

WHEREAS this Act authorizes the members of the State Commission of Forestry to name Fulton B. Creech, Sr., former Chairman of the Commission, to be Chairman Emeritus of the State Commission of Forestry; and

WHEREAS Mr. Creech provided outstanding leadership during the period of nearly 25 years he served as a member of the Forestry Commission (September 1, 1950 to January 14, 1975); and

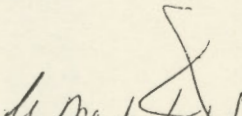
WHEREAS Mr. Creech served as Chairman of the Forestry Commission for more than 20 years (August 4, 1954 to January 14, 1975); and

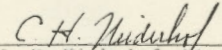
WHEREAS the present members of the Forestry Commission gratefully acknowledge the many contributions made by Mr. Creech in guiding the development of programs of forestry and state parks in South Carolina;

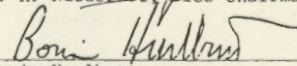
NOW THEREFORE BE IT RESOLVED that we, the present members of the Forestry Commission, are pleased to name Fulton B. Creech, Sr. to be Chairman Emeritus of the State Commission of Forestry; and

BE IT FURTHER RESOLVED that we do hereby direct that a copy of this Resolution and a copy of Act 449 be presented to Mr. Creech; that a copy be sent to the House Members who introduced the Bill (David F. McInnis, Larry Blanding, Charles L. Griffin, III, and Ramon Schwartz, Jr.) expressing our appreciation for being given the opportunity to extend to Mr. Creech this well-deserved recognition; and that a copy be incorporated in the official minutes of this meeting of the South Carolina State Commission of Forestry.

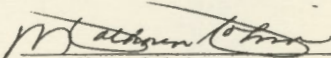
IN WITNESS WHEREOF we have hereunto affixed our signatures and the official seal of the South Carolina State Commission of Forestry this twenty-seventh day of May in the year of our Lord, Nineteen Hundred and Eighty.

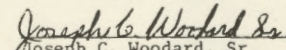

A. Brandon Taylor, Jr., Chairman

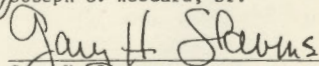

C. H. Niederhof, Vice Chairman

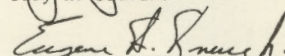

Boris Hurlbutt

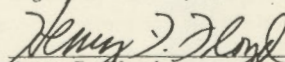


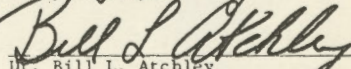

M. Calhoun Colvin


Joseph C. Woodard, Sr.


Gary H. Slavens


Eugene H. Kneee, Jr.


Henry F. Lloyd


Dr. Bill L. Atchley

ADMINISTRATION

Leonard A. Kilian, Jr., State Forester and Secretary to the Commission

Virginia S. Holmes, Executive Assistant to State Forester

Walter T. Ahearn, Staff Director

John M. Shirer, Division Director, Forest Engineering and Logistics

Chauncey R. Nichols, Division Director, Field Operations

Claude F. Barden, Division Director, Administration

FOREWORD

Interest in the reforestation and protection of forest land in South Carolina began as early as 1787 when a law was passed which provided for the punishment of any person who wilfully, maliciously or negligently caused fire to do damage to the property of another. Between 1787 and 1912 some eleven bills were passed concerned with forestry, largely dealing with the protection of the forest from fire. Increasing activities in lumber and naval stores directed attention of thoughtful individuals to the fast disappearing timber supply. The growing interest in the future of South Carolina's forest resources culminated in the Act of the General Assembly of South Carolina (1976 Code of Laws, Volume 16, Title 48, Chapter 23), April 26, 1927, creating the State Commission of Forestry. The first appropriation of \$4,000 was made by the General Assembly in 1928.

The first organized forest fire control efforts were initiated in 1928 when groups of landowners in cooperation with the S. C. State Commission of Forestry formed five forest fire protection organizations for the control of woods fires on some 195,000 acres of woodland. These Forest Protective Associations, as they were known, grew in number and size until 1944 when 24 counties had organized fire protection organizations.

The year 1945 was a banner year for forest fire protection, for it was then that the General Assembly passed the South Carolina Forest Fire Protection Act (1976 Code of Laws, Volume 16, Title 48, Chapter 33) which extended organized forest fire protection to every county in South Carolina — the first of any of the southeastern states to take such a step.

Paralleling the growth of forest fire protection, reforestation of cut-over and idle land also came in for ever increasing emphasis. Just two years after the Act creating the State Commission of Forestry, the General Assembly authorized the S. C. State Commission of Forestry to establish a nursery and grow forest tree seedlings. This was done on a 5-½-acre tract near Camden where 731,400 seedlings were raised the first year. This program has grown to four state nurseries and one industry-operated nursery which now produce some 50 million forest tree seedlings annually, both pine and hardwood, for planting throughout South Carolina. In 1961 attention was given to improving the quality of seedlings available for planting in South Carolina by establishing seed orchards of superior trees through a Cooperative Tree Improvement Program involving both state and industrial interests.

Direct assistance to farmers and other landowners in managing their forest land began in the winter of 1930-31 as a demonstration in Fairfield County of proper thinning, measurement of board foot content of standing timber and use of equipment in suppression of forest fires. Under a cooperative agreement with the county agricultural agents, such demonstrations were held just two years later in 33 counties. Such direct

assistance has grown through the years and has expanded to include individual forest land examinations, 2,768 of which were made by Commission foresters this fiscal year. In addition to these examinations, Forestry Commission foresters marked timber for sale for 294 landowners.

From the very beginning of activity by the State Commission of Forestry, education has been a prime function in the fields of fire protection, reforestation and forest management. In the fall of 1928, at the South Carolina State Fair, an exhibit program was initiated that has been carried on continuously since that time. Each year the Forestry Commission places exhibits promoting a forest conservation concept in the State Fair and in every county fair that provides the space. The year 1929 saw expansion of the Forestry Commission's educational efforts when, in cooperation with the American Forestry Association, one, then later three, motion picture trucks showed movies and distributed literature to schools, clubs and other groups. In 1930 it was reported that 320 shows and lectures reached a total of 54,000 men, women and children. An additional boost was given the school program when in 1931, in cooperation with the office of the Supervisor of Vocational Agricultural Education, forestry was added as a study in Vocational Agriculture classes throughout the state.

At present, heavy emphasis continues through all media available — schools, clubs, civic groups, radio and television and the press in telling the forest conservation story and the needs of the future.

It is expected that the nation's demand for softwood from the South will increase from the present 35% to more than 50% by the year 2020. Further, pressure on the available supply of hardwood will increase proportionately. The outlook presents both a challenge and a distinct opportunity to increase appreciably the contribution of the wood-using industry to the economic health of South Carolina. Multiplied many times also will be demands for other uses of the forest — recreation, wildlife management, water conservation and a myriad of other needs in the area of aesthetics. The South Carolina State Commission of Forestry has been concerned through the years with all aspects of forest conservation and will continue to promote by every means available the wise use of South Carolina's forest resources to meet the demands of the future.

ADMINISTRATION

PERSONNEL

WORKFORCE

The South Carolina State Commission of Forestry has a total of 642 authorized positions classified into 54 separate job categories. The majority of these positions, 551 (85.83%), are directly involved in program activities. The remaining 91 positions (14.17%) are involved in required support activities including administration, secretarial, clerical, maintenance and service.

SAFETY

Most Commission personnel work in positions having a higher than normal risk of injury. Our safety program is directed toward reducing this risk and includes specialized training in hazardous operations, installing guards and protective devices on equipment, and providing personal protective equipment such as hard hats and goggles where needed. In addition, safety is stressed by supervisors in regular personnel meetings. Even with these precautions, there were 53 job related injuries reported this past fiscal year. Fifty-two of these were minor resulting in no hospitalization or permanent disability. Unfortunately, there was one fatality resulting from contact with a high voltage power line.

Motor vehicle accidents were reduced from the preceding year, with only 2 accidents occurring. Neither of these was classified as being preventable by the operator.

A Safety Officer has recently been designated to develop and coordinate an agency-wide safety program. It is anticipated that our safety record will improve as a result.

EMPLOYMENT

Of the 51 vacancies that occurred during the fiscal year, only 41 were filled. Budgetary reductions necessitated our holding many positions open longer than normal until sufficient funds were available. A total of 832 job applicants were interviewed for the 40 positions filled.

AFFIRMATIVE ACTION

Affirmative Action continued to be emphasized throughout the year. The Commission's Personnel Section and the State Human Affairs Commission conducted affirmative action training for all key supervisory personnel. Recruitment was stressed to maintain an applicant pool representative of the available work force. Job applicants and new personnel hired fall into the following categories:

	White Males		Black Males		White Females		Black Females		Total	
Applicants	543	65.26%	86	10.34%	143	17.19%	60	7.21%	832	100%
New Employees	14	34.14%	11	26.83%	13	31.71%	3	7.32%	41	100%

FINANCIAL

A completely new double entry accounting and reporting system has been implemented through the use of teleprocessing and the University of South Carolina. The statewide distribution of supplies from the Central Warehouse and seven district shops is controlled by this system as well as fixed assets which are maintained in this system with the capability of depreciation. The system allows continuous monitoring of all fund and periodic management oriented financial and statistical reports.

FINANCIAL STATEMENT S. C. STATE COMMISSION OF FORESTRY July 1, 1979 - June 30, 1980

RECEIPTS

Operation Revenue From 1978-79	\$ 165,360.55
Capt. Imp's. — Bond Proceeds From 1978-79	261.09
Sand Hills Forest-Federal From 1978-79	416,822.11
Young Adults Conservation Corps	21,084.86
Appropriation-Sewerage	18,111.05
Rural Fire Prevention & Control	762,850.00
Rural Forestry Assistance	397,375.00
Planning	28,000.00
General Forestry Assistance — Improved Harvesting	16,000.00
Insect & Disease	58,143.00
Watersheds, PL — 566	76,095.05
R. C. & D. Technical Assistance	37,699.72
Agriculture Conservation Program	62,500.00
Forestry Incentive Program	111,000.00
Water Quality	1,631.00
Residue	3,735.00
Improved Drying (Wood Energy)	4,256.87
Southern Pine Beetle — 1	16,800.00
Rural Comm. Fire Depts. (Federal Reimbursement)	100,400.00
Sand Hills Forest — Federal	654,966.30
Young Adult Conservation Corps	204,479.68
State Appropriation	8,246,740.00
Deficiency Appropriation	403,865.00
Merit & Employees Benefit Appropriation	139,973.00
Other Operating Expenses	91,518.00
Cap. Imps. — Bond Proceeds	309,872.30
Ridge Nursery — Insurance	46,688.96
State Forest — Manchester	32,677.34

(Two-Way Radio) Timber Firms	1,118.31
Equipment Rental	12,151.00
Firebreak Plowing	10,156.50
Prescribed Burning Assistance	1,625.50
Miscellaneous	7,238.56
General Revenue — State Forest — Manchester	98,215.87
General Revenue — Hunting & Fishing — Manchester	5,095.70
General Revenue — Nurseries	476,526.47
General Revenue — Timber Marking	15,739.48
General Revenue — Miscellaneous	307.96
Total Receipts — Forestry	\$13,057,081.23
Less Receipts to General Revenue Account	-595,885.48
Less Appropriation Lapsed To General Fund	-21,398.71
Total Receipts Available for Expenditure	\$12,439,797.04
Less Expenditures	-11,383,063.60
Balance — Forestry Commission	<u>\$ 1,056,733.44</u>

FOREST ENGINEERING AND LOGISTICS

RADIO

Progress of the overall communications program of the Forestry Commission continues to be excellent. Seven radio technicians handle the installation, maintenance and research activities of the Commission's radio communications program.

Columbia Radio Shop:

The Central Radio Communications Maintenance and Repair Shop is located at 241 Catawba Avenue in Columbia. All communications activities including radio installations, maintenance, and repairs of communications equipment by the radio technicians assigned to outlying districts, are administered from this communications headquarters.

Inventory of Radio Improvements and Equipment:

- 8 Remote Control Base Units, 330 watts
- 1 Remote Control Base Unit, 375 watts
- 1 Mobile Relay Base Unit, 120 watts
- 27 Local Control Base Units (Tube Type)
- 121 Local Control Base Units (Solid State)
- 3 Mobile Units (Transistorized), 80 watts (For mobile relay)
- 4 Mobile Units (Tube Type)
- 108 Mobile Units (Transistorized), 40 to 110 watts
- 478 Mobile Units (Transistorized), 15 to 30 watts
- 96 Portable Units, 1½, 3 and 5 watts
- 217 Auxiliary receivers
- 8 Radio Towers

Equipment Maintenance Shop:

All regular and specialized fire suppression equipment is modified and processed for field use at the Commission's Central Repair Shop.

Eleven (11) new medium suppression tractors were purchased as replacements for worn out units and eleven (11) medium transports were replaced with new trucks.

Central Shop personnel made numerous repairs to Forestry Commission vehicles and equipment, and manufactured special fire control items. Some of the work done this year included: build 11 medium suppression unit transport bodies, outfitted 11 medium tractors for field use, including modification of canopies, plows, etc.

Many items are modified or built outright at the Central Repair Shop including tractor bumpers, truck ramps, tractor drawbars, plow tongues, plows, and tool boxes. Vehicles are painted and decals are installed at the Central Shop.

Inventory of Basic Fire Tools and Equipment

June 30, 1980

- 1,256 Back Pack Pumps
- 3,921 Fire Rakes
- 1,414 Fire Swatters
- 662 Backfire Torches
- 6 Heavy Suppression Tractor-Plow units w/Transports
- 223 Medium Tractor-Plow Units w/Transports
- 4 Heavy Lowboy Trailers
- 46 Ranger Pickup Trucks
- 1 ½-ton Jeep
- 11 Mechanics and Radio Technicians Station Wagons
- 1 2-ton Jeep
- 21 ½-ton Pickup Trucks (Mechanics)
- 18 Ground Tankers
- 2 Forest Fire Simulators
- 3 Fire Headquarters Trucks

Tankers:

The number of ground tankers in the field totals 46. Tankers range in capacity from 260 gallons to 5,000 gallons and are stationed in various parts of the state. Listed below are location, tanker size and year put into service.

GROUND TANKERS

<i>Location</i>	<i>Capacity (Gallons)</i>	<i>Year in Service</i>
Richland	300 Ford 350	8/69
Orangeburg	2000 Trailer	3/70
Camden	2000 Trailer	1/70
Florence	1200 6 × 6	3/70
Florence	1200 6 × 6	6/70
Central Shop	5000 Trailer	5/70
Richland County	400 Ford 350	5/72
Marlboro County	700 (4WD, International)	6/73
Central Shop	700 (4WD, International)	6/73
Lexington County	260 (4WD, Chevrolet)	6/73
Camden	260 (4WD, Chevrolet)	6/73
Greenwood County	260 (4WD, Chevrolet)	6/73
Berkeley County	260 (4WD, Chevrolet)	3/76
Florence County	260 (4WD, Chevrolet)	3/76
Jasper County	260 (4WD, Chevrolet)	3/76
Clarendon County	260 (4WD, Chevrolet)	3/76
Chester	260 (4WD, Chevrolet)	5/77
Charleston	260 (4WD, Chevrolet)	5/77
Hampton	260 (4WD, Chevrolet)	5/77
Marion	260 (4WD, Chevrolet)	5/77
Oconee	260 (4WD, Chevrolet)	5/77
Sumter	260 (4WD, Chevrolet)	5/77
Allendale	260 (4WD, Chevrolet)	5/77
Georgetown	260 (4WD, Chevrolet)	5/77
Pickens	260 (4WD, Chevrolet)	5/77
Marlboro	260 (4WD, Chevrolet)	5/77
Horry	260 (4WD, Chevrolet)	5/77
Orangeburg	260 (4WD, Chevrolet)	5/77
Kershaw	260 (4WD, Chevrolet)	6/78
Lancaster	260 (4WD, Chevrolet)	6/78
Richland	260 (4WD, Chevrolet)	6/78
Williamsburg	260 (4WD, Chevrolet)	6/78
Abbeville	260 (4WD, Chevrolet)	6/78
Laurens	260 (4WD, Chevrolet)	6/78
Saluda	260 (4WD, Chevrolet)	6/78
Barnwell	260 (4WD, Chevrolet)	6/78
Calhoun	260 (4WD, Chevrolet)	6/78
Union	260 (4WD, Chevrolet)	6/78
Beaufort	260 (4WD, Chevrolet)	6/78
Dorchester	260 (4WD, Chevrolet)	6/78
Chesterfield	260 (4WD, Chevrolet)	6/79

GROUND TANKERS

<i>Location</i>	<i>Capacity (Gallons)</i>	<i>Year in Service</i>
Lee	260 (4WD, Chevrolet)	6/79
Edgefield	260 (4WD, Chevrolet)	6/79
Cherokee	260 (4WD, Chevrolet)	6/79
Greenville	260 (4WD, Chevrolet)	6/79
Fairfield	260 (4WD, Chevrolet)	6/80

FIELD OPERATIONS

FOREST MANAGEMENT

The major emphasis of the Commission's forest management program is assisting small private owners in the management of their woodland properties. To date more than half the total woodland areas of the state has been examined by foresters and recommendations made to increase their contributions. More than 35,472 landowners have been assisted with forest management plans.

The 1978 Forest Survey shows that 65 percent of the total land in South Carolina is classified as woodland. This is an increase of 92,000 acres since 1968. The ownership pattern changed slightly as one percent of the land in farmer and miscellaneous private shifted to forest industry. Farmer ownership continued to shift to miscellaneous private. Farmers dropped from 54% of the small industrial private ownership in 1968 to 49% in 1978. Farmers and miscellaneous private owners hold more than 73 percent of the forestland, forest industry approximately 18 percent, and public ownership 9 percent.

Foresters of the State Commission of Forestry are available to give forest management assistance to any landowner in the state upon request. This assistance consists of an examination of the woodland area, after which the forester prepares and furnishes to the owner a written plan for managing his forest property. This includes recommendations on site preparation, tree planting, protecting the woodland from wildfire, insects and diseases, improving stands of trees, intermediate thinnings, and harvest cuttings as needed. Consideration is given to the improvement of soil, water, wildlife, recreation, aesthetics, and other environmental and ecological aspects along with timber production.

The working relationship established between the S. C. State Commission of Forestry and the ten Councils of Government was continued throughout the year. All Commission foresters work with Regional Planning Councils wherever needed.

During 1979-80 the Commission had a total of 34 man-years devoted to assisting small private landowners with forest management on their lands, including the small watershed activities. These men prepared 2,768 forest management plans. Timber on 294 tracts covering 4,873 acres was marked preparing 10,517,270 board feet of sawtimber and 17,487 cords of pulpwood for the market.

Where the forest management needs of the owner indicate it, Commission foresters encourage the landowner to employ a private consulting forester. Commission foresters also work closely with industry foresters who give direct assistance to landowners.

The demand for sawtimber remained high for two-thirds of the fiscal year. Excessive rainfall in winter prevented logging followed by a depressed market which slowed sawtimber movement considerably. Stumpage prices for sawtimber varied throughout the state but generally held close to the previous year.

Four state tree nurseries were in operation during the 1979-80 year. The number of acres planted to trees in South Carolina increased slightly over the previous year. The nurseries are expected to increase tree production to provide for the expanded needs of forest industry and the Forestry Incentives Program.

The greatest problem facing South Carolina landowners is reforestation of some 1.8 million acres of understocked private non-industrial woodland. The Forestry Commission will concentrate its efforts in this direction. The forest management program expansion will be aimed at assisting these small private landowners in getting more of this work accomplished. South Carolina cannot afford the loss from allowing these lands to remain unproductive. If we set 1.8 million acres as a goal and accomplish this in the next 20 years, the annual return to landowners would approximate \$27 million and the annual total business increase to the state could reach more than \$405 million. In the process, with proper consideration, environmental benefits can be increased in proportion to these economic benefits.

A Forestry Incentives Program providing landowners cost-sharing assistance for reforesting cutover woodland or other forest improvement practices was first funded by Congress in 1974. This program was continued this year and is expected to stimulate forest planting on non-industry private landowner woodlands at about the present rate. More details on this effort appear under the section on the Forestry Incentives Program.

Woodland Management Assistance

The 34 man-years of forest management time of foresters were directed toward assisting private landowners with their woodland management problems. Clemson University Extension foresters assisted in

this program, primarily with promotional demonstration effort.

Any landowner in the state can receive assistance. A forester, with the landowner or his agent, will look over the woodland, give on-the-ground advice and prepare a report covering recommendations. This includes any cutting, fire protection, insect and disease control, timber stand improvement, reforestation, wildlife and recreational measures that are needed. No charge is made for this woodland examination.

When cutting of timber is recommended, a forester of the State Commission of Forestry will, at the request of the landowner, mark the timber to be cut, provide the landowner with an estimate of the volume marked for cutting, and furnish a list of prospective buyers, a suggested form for advertisement, and a sample timber sale agreement. The charge for this service during the fiscal year was \$1.00 per thousand board feet for sawtimber and 35 cents per cord for pulpwood. All other services are provided free of charge.

In addition to the above, recommendations are given on prescribed burning in pine types. Prescribed burning is a technical measure which involves the application of fire to woodlands under conditions of proper weather, soil moisture, season, time of day, and forest type. Fire as a tool can be beneficial in the control of weed trees, seedbed preparation, control of "brown spot" disease of longleaf pine and reducing hazardous fuels. Recommendations for the use of prescribed fire are made only after very careful analysis with the landowner of the forest conditions to be sure that benefits will be greater than probable damages.

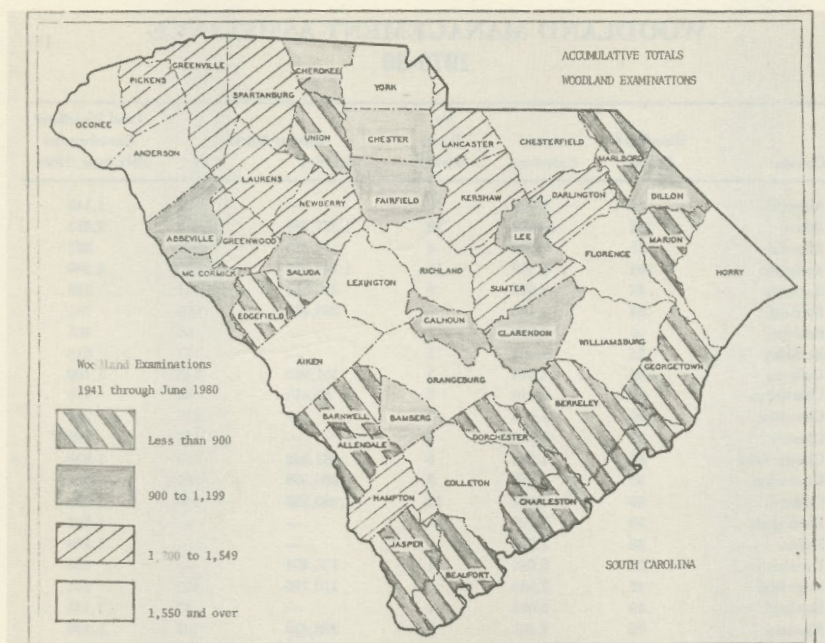
During the year Commission foresters made 2,768 examinations on 189,553 acres of forestland. They selectively marked 10,517,270 board feet of sawtimber and 17,487 cords of pulpwood for 294 landowners of 4,873 acres of forestland.

In addition to woodland examination and marking services, a large number of requests for general information and advice were answered by the Columbia, district, and project office technical forestry staffs. These requests included information on scrub hardwood control, timber stand improvement work, industry location data, markets, etc.

Commission foresters were able to service most requests for assistance with only one to four weeks delay. Additional personnel would be needed in some areas to promote and respond to additional requests.

WOODLAND MANAGEMENT ASSISTANCE 1979-80

County	Woodland Exams	Acres Examined	No. Tracts Marked	Volume Marked Bd. Ft.	Cds.	Total Woodland Examinations 1941-June, 1980
Abbeville	82	4,066	6	—	791	1,149
Aiken	132	10,882	20	1,377,340	1,118	2,213
Allendale	31	2,559	4	147,913	315	527
Anderson	104	5,350	18	1,197,628	602	2,299
Bamberg	43	3,652	9	423,584	1,141	929
Barnwell	54	3,193	6	303,425	606	781
Beaufort	14	2,828	1	—	65	405
Berkeley	53	3,062	1	—	77	515
Calhoun	102	4,445	3	181,990	543	1,100
Charleston	26	6,110	3	83,418	85	478
Cherokee	30	3,484	3	—	219	991
Chester	32	3,183	1	—	115	992
Chesterfield	80	4,991	6	481,482	853	1,836
Clarendon	55	3,485	5	260,338	191	1,024
Colleton	90	5,922	13	1,460,282	540	2,039
Darlington	39	3,160	—	—	—	1,542
Dillon	48	3,219	—	—	—	1,169
Dorchester	22	2,024	1	131,854	—	656
Edgefield	42	2,636	5	110,760	453	651
Fairfield	49	5,061	1	—	35	1,123
Florence	75	2,161	6	208,230	59	2,139
Georgetown	45	4,962	1	18,727	8	413
Greenville	46	3,080	8	266,658	293	1,313
Greenwood	100	8,415	2	—	274	1,419
Hampton	98	5,196	6	219,300	372	1,218
Horry	53	4,163	2	11,669	29	1,868
Jasper	14	1,265	—	—	—	472
Kershaw	56	3,690	—	—	—	1,491
Lancaster	70	2,893	4	86,284	70	1,437
Laurens	34	3,995	2	—	164	1,391
Lee	25	2,425	1	—	44	930
Lexington	77	4,912	19	728,642	962	1,772
Marion	38	2,048	—	—	—	548
Marlboro	23	2,214	—	—	—	852
McCormick	43	4,713	—	—	—	1,083
Newberry	55	3,548	—	—	—	1,481
Oconee	51	3,044	44	693,082	1,204	1,597
Orangeburg	214	12,095	9	689,101	124	2,539
Pickens	60	4,445	19	165,148	1,335	1,478
Richland	160	5,290	31	946,171	1,504	1,961
Saluda	42	4,870	—	—	—	1,112
Spartanburg	50	2,895	17	161,152	901	1,412
Sumter	34	2,613	—	—	—	1,452
Union	38	2,606	3	—	339	615
Williamsburg	48	3,161	3	163,092	225	1,679
York	91	5,642	11	—	1,831	1,906
TOTALS	2,768	189,553	294	10,517,270	17,487	57,997



Consulting Forester Activity

Commission foresters continued to follow the practice of referring all appropriate cases to consulting and industry foresters wherever possible. Records show 574 cases were referred to consulting foresters and 468 cases were referred to industry foresters. Many additional requests for assistance were referred to consulting foresters and industry foresters where no field work was done by Commission personnel.

WATERSHED PROJECTS

A program to help control water runoff on the small watersheds and to protect bottomlands along the smaller streams for overflow was initiated some years ago through Public Law 566. The State Commission of Forestry has the responsibility of providing needed forestry assistance under agreement with the U. S. Forest Service. There were 11 of these small watershed projects active under Public Law 566 in the state.

There are 89 separate watersheds in the state on which work has been completed or is still under operation or in planning stages.

A summary of accomplishments on the active watershed projects is given in the accompanying table:

Watershed projects which have forestry work completed are: Twelve Mile Creek Pilot Watershed, Pickens County; Coneross Creek, Oconee County; Wateree Creek, Fairfield County; Beaverdam Creek, Edgefield County; Brushy Creek, Anderson County; Hills Creek, Chesterfield County; Huff Creek, Greenville County; Big Creek, Anderson County; Maple Swamp, Marlboro County; Lynches Lake-Camp Branch, Florence County; Fishing Creek, York County; Duncan Creek, Laurens County; Wilson Creek, Anderson and Abbeville Counties; Wilson Creek, Greenwood County; Carters Branch-Muddy Creek, Marlboro County; Horse Range Swamp, Orangeburg County; Willow Swamp, Colleton and Bamberg Counties; Thicketty Creek, Cherokee County; Georges Creek, Pickens County; Hollow Creek, Lexington County; North Tyger, Spartanburg County; Beaverdam, Anderson and Oconee Counties; Jackson Mill Creek, Fairfield County; Eighteen Mile, Pickens County; and Three & Twenty, Anderson County.

Forest Products Utilization and Marketing

Sawtimber and Pulpwood Stumpage Prices for South Carolina

*Five-Year Period**

<i>Fiscal Year</i>	<i>Weighted Average stumpage price per thousand board feet Scribner Tree Scale</i>	<i>Weighted Average stumpage price per Standard Cord</i>
1975-76	79.98	9.38
1976-77	91.64	10.83
1977-78	98.00	10.66
1978-79	127.13	11.46
1979-80	138.08	12.71

* Sales of timber marked by Commission foresters on private property.

The average price of pine and hardwood sawtimber increased again during the year, however, not as dramatically as the previous year.

The first three months of 1980 were extremely wet and the demand for the last three months was down due to the high interest rate which in turn resulted in a slowdown of housing starts. Pulpwood prices remained fairly stable.

During the year information was gathered from primary wood using industries for a commodity drain report for 1979. Added emphasis was placed on the residue produced and its disposal.

The Commission continued its program of providing direct assistance to the wood using industry. The objective of all the utilization programs is to "stretch" the state's timber supply. These programs include logging and log yard analysis, sawmill improvement, roughmill improvement, improved drying and wood energy.

Also completed this year was a two year study to determine the tonnage of wood residue left in the woods after a final harvest cut. This study showed that forest industry was removing practically all of the merchantable wood, but an average of 22 tons per acre of non-merchantable material (less than 4 inches in diameter) was being left. New machines are now being developed to pick up this material and utilize it for energy wood or other products.

Other assistance consisted of providing detailed resource information to those interested in locating wood using industries in the state, or in enlarging existing operations. This type of information was provided to industry and the State Development Board.

Considerable time was spent working with non-wood using industries in their search for wood residue that could be used as fuel. Ninety-five percent of all residue produced from primary wood using plants is used in some way. This only leaves five percent or less available. Assistance was given to one major university, two brick plants, and other non-wood using industries.

In addition, training was given to Commission field foresters in forest utilization and marketing procedures and wood protection. Also the Commission handled over 183 miscellaneous utilization, marketing and energy requests during the fiscal year.

Resource Conservation and Development Projects

The Resource Conservation and Development (RC&D) program is initiated and sponsored by local citizens. Federal, state and local government with industry and others work together on proposals these citizens consider necessary to develop a better way of life for all citizens in the area. The RC&D objective is to increase economic opportunities through the orderly development, conservation and improvement of all resources including land, water and woodlands.

During the past year funds were provided for an RC&D forester in the Ninety Six RC&D project. Forestry funds were discontinued in the Crossroads of History project after ten years of operation.

Lowcountry Resource Conservation and Development Project

This is a local program in which state, federal, and local governments work together to improve the economy of seven lowcountry counties. The counties are Beaufort, Berkeley, Charleston, Colleton, Dorchester, Hampton and Jasper. This project began during the 1967-68 fiscal year.

During the past fiscal year the RC&D forester spent much of his time investigating and answering requests for information on the use of wood residues for energy.

He also made seven media presentations, produced three newsletters, and presented twenty-four promotional talks. He assisted with a sawmill improvement study, the collection of commodity drain data, and made a number of shade tree assists in Beaufort County.

Wood Residues for Energy

Assistance was provided to the utilization staff of the Commission of Forestry in locating sites and collecting data for the logging residue study in the Lowcountry. The information will be used to develop a supplemental logging residue report for the RC&D area.

Information concerning the use of wood-fired boilers at primary wood using industries was gathered along with the commodity drain data this past year. The information will be used as a starting point in developing a list of firms using wood-fired boilers in South Carolina, and will also give an indication as to the energy self-sufficiency of the wood using industry in the state.

Contact was maintained with the Governor's Office of Energy Resources, Energy Research Institute, and wood energy specialists with the U. S. Forest Service in the investigation and promotion of the use of wood residues for energy. Several visits were made to plants using and/or converting to wood-fired boiler systems.

Prescribed Burning

A prescribed burning school and demonstration was conducted in St. George in cooperation with the Clemson University Extension Service and the Dorchester Soil and Water Conservation District.

Twenty-five people attended the school which consisted of an indoor and outdoor session. The indoor session covered the reasons for burning, burning techniques, assistance, planning, weather, and forest fire laws; the outdoor session was an on-the-ground demonstration of the various burning techniques.

Woodland Clinic

Seventy-seven students representing eleven schools and three 4-H Clubs from seven counties participated in the 1980 Woodland Clinic.

The students were tested in such things as tree identification, tree measurement and volume estimation, and selective thinning.

The clinic was held at Givhans Ferry State Park in Dorchester County, and was co-sponsored by the seven Soil and Water Conservation Districts within the RC&D area and Lowcountry RC&D.

Ninety Six Resource Conservation and Development Project

The Ninety Six District Resource Conservation and Development Project consists of Abbeville, Edgefield, Greenwood, Laurens, McCormick and Saluda Counties. This project was initiated and sponsored by local citizens, federal, state and local governments. Industry and others are working together on proposals the local citizens consider necessary to develop a better way of life for all people in this area.

The primary objective is to assist landowners, Upper Savannah Regional Planning and Development Council, local units of government, and other agencies; (1) in developing a Forest Resource Analysis of the area that will meet not only the short-term needs, but also provide long range guidance in respect to land use planning and identification of forest recreational potential; (2) to improve forest economics through proper use, more efficient management, protection, and diversified use; (3) by utilizing forest resources to upgrade employment opportunities; and (4) to protect water quality through planned erosion and sediment control measures.

One Commission forester has been assigned to work full time in this project. His primary concern is the development and initiation of projects and activities which complement the forest management programs in the RC&D area. Major emphasis was placed in three Areas:

- A. Analysis of the 1978-79 Forest Survey Data. The plans are to put this information in a pamphlet form and distribute it to interested persons.
- B. Promotion of utilization of wood residue for energy. Work has begun with forest and non-forest industries to promote the use of wood residue (logging and industrial) for energy.
- C. Christmas tree production. Two workshops have been held to inform people interested about what is involved in growing Christmas trees.

Emphasis in other areas include: (1) Remote sensing study. This involves working with satellite and high altitude photos, to become familiar with efforts to develop the use of these in intensive forestland

inventory; (2) Woodland management work; (3) Forest products utilization and manufacturing promotions; (4) Assist in interagency nonpoint source pollution studies; (5) Technical assistance to RC&D Commissioners, forestry committees, and RC&D County Committees; (6) Increase awareness of need for reforestation; and (7) Work with Clemson Extension Service to promote forestry through 4-H and Vo-Ag students.

Forest Survey

The fifth Forest Survey for South Carolina has been completed and the final report published. This survey shows that 65% of the total land in South Carolina is classified as woodland. This is an increase of 92,000 acres since 1968. The ownership pattern changed slightly as one percent of the land in farm and miscellaneous private shifted to forest industry. Farm ownership continued to shift to miscellaneous private. Farmers dropped from 54 percent of the small industrial private ownership in 1968 to 49 percent in 1978. Farmers and miscellaneous private owners hold more than 73 percent of the forestland; forest industry approximately 18 percent, and public ownership 9 percent.

The net volume of sawtimber increased by 37 percent since the last survey. This increase was equally distributed between softwood and hardwood.

The statewide figures show that the net annual growth is almost double net annual timber removal.

The statewide net annual growth of growing stock averages over 77 cubic feet per acre of forestland and represents a 31 percent increase over the last survey.

The Forest Survey was conducted by the Southeastern Forest Experiment Station of Asheville, North Carolina, a research unit of U. S. Forest Service.

Urban Forestry

The first urban forestry project in South Carolina was established in Columbia in 1973 followed by a project in the Greenville-Spartanburg area in 1974. An urban wood utilization project that started in Charleston in 1977 has evolved into an urban forestry project. During 1977-78 fiscal year an urban project was started in Florence. During the 1977-78 fiscal year CFM foresters in Anderson, Conway/Myrtle Beach, and York devoted 25% of their time to determine if an urban forestry program was needed in these areas. The Conway/Myrtle Beach area was the most promising and requests for assistance indicates a great need for a project there. Funds have not been available to establish the Conway/Myrtle Beach urban project.

Urban foresters work with private businesses, planners, governmental agencies and the general public for the care, protection and wise use of our urban forests.

The following are urban forestry accomplishments for fiscal year 1979-80:

	<i>Columbia</i>	<i>Greenville/ Spartanburg</i>	<i>Charleston</i>	<i>Florence</i>
Individual Assists	382	1,200	351	144
Professional Assists	53	140	29	24
Tree Expert Referrals	129	200	55	37
Environmental Surveys	—	—	2	—
Woodland Examinations	5	—	24	7
Marking and/or Marketing Assists	698 cds.	—	57,176 mbF 85 cds.	—
News Release/Radio Television	—	5	21	35
Garden/Civic Club Pro- grams & Demonstrations	23	59	66	12

Urban foresters also assisted with special projects.

The Greenville-Spartanburg urban forester conducted an urban wood fiber utilization emphasis resulting in 80,000 board feet of timber and 3,650 cords of pulpwood directed towards mills and chippers.

The Charleston urban forester assisted two municipalities and two island developments in assessing and treating hurricane damage. He assisted the town of Mt. Pleasant with an inventory of trees and planting sites in the Old Historic District. He also participated in a plant problem clinic, environmental workshop for educators and a landscape maintenance short course at Baptist College.

The Florence urban forester participated in a plant problem clinic, a Founder's Day display in Johnsonville and a street tree inventory in Cheraw.

South Carolina Tree Farm System

The South Carolina Tree Farm Program gives public recognition to private timberland owners who are doing outstanding jobs in managing their forestlands, thereby encouraging others to do likewise. The basic aim of the Tree Farm Program is to place more woodland under good forest management practices to bring continuing benefits to the owners and produce more and better forest products and services.

To become a Tree Farmer a landowner must demonstrate the desire and ability to protect his trees from fire, insects, diseases, and destructive grazing. In addition, he must apply sound cutting practices to improve the growth of the timber stand. Forestry measures designed to insure the growing and harvesting of repeated tree crops must be

followed, including measures to assure satisfactory reproduction, either from natural seeding or planting.

Before a woodland may be certified as a Tree Farm, it must be inspected by a qualified forester who submits an inspection record for consideration by the State Tree Farm Committee. When a property is approved as a Tree Farm, the owner is given a certificate and a diamond-shaped green and white sign denoting his membership in the Tree Farm System. It is hoped that his neighbors and others who see the sign and the good forestry practices will come to better understand forest values and forestry practices.

The South Carolina Tree Farm System is sponsored by the local forest industries through the Southern Forest Institute which is the southern affiliate of the national organization, the American Forest Institute. The S. C. State Commission of Forestry, the Clemson University Extension Service and consulting foresters and woodland owners in South Carolina cooperate and assist with the program. A Tree Farm Committee, made up of representatives from the above mentioned industries and organizations, administers the program.

As of June 30, 1980, there were 893 Tree Farms in the State, comprising 2,743,741 acres.

Plans are being made in South Carolina to designate certain interested forest landowners as Pioneer Tree Farmers. For a two-year period inspecting foresters would work with them to instigate the forest management practices needed so that they would qualify for certification as a Tree Farmer. If the management goal is not reached in the two year period, the Pioneer Tree Farmer would be either dropped from the program or he would be reenlisted on an extended time.

Forestry Incentives Program (FIP) Agriculture Conservation Program (ACP)

The objective of the Forestry Incentives Program, authorized by Congress in 1973, is to intensify timber production and related multiple use benefits for non-industrial private landowners owning 1,000 acres or less of forestland.

FIP funds allocated to South Carolina for the 1979-80 program year totaled \$1,025,000. Funds not utilized in the previous year's program were carried over into the current year because of the "no year-end funding" spelled out in the original act. Cost share funds earned in 1979-80 totaled \$1,203,651.

1979-80 FIP Accomplishments

<i>Practice</i>	<i>No. Referrals</i>	<i>Acres Completed</i>	<i>Cost Share Paid Out</i>
Bare Land Planting	130	3,089*	61,939
Site Preparation & Planting	732	16,195	1,136,644
Timber Stand Improvement	9	129	5,068
TOTALS	871	19,413	1,203,651

* Includes 554 acres of replanting.

FIP Accomplishment Summary

Total funds allocated to South Carolina for FIP since 1973 amount to \$6,254,940. Cost share funds earned through June 30, 1980 totaled \$4,639,793. The outstanding balance of \$1,615,147 is obligated and is being held by County Agricultural Stabilization and Conservation Service (ASCS) offices until 1979 and 1980 practices are completed. Table 1 summarizes FIP accomplishments by practice since 1973-74.

Funds are available through the traditional Agricultural Conservation Program (ACP) for landowners who do not qualify for forest improvement cost-share funds under the present FIP guidelines, or for practices not included in FIP such as prescribed burning and firebreak construction. A special allocation of \$250,000 ACP funds were allotted to assist in reducing the FIP backlog. These referrals were recorded under ACP.

1979-80 ACP Accomplishments

<i>Practice</i>	<i>No. Referrals</i>	<i>Acres Completed</i>	<i>Linear Feet</i>	<i>Cost Share Paid Out</i>
Bare Land Planting	83	1,679*	—	40,598
Site Preparation and Planting	207	3,709	—	258,118
Timber Stand Improvement	8	152	—	4,413
Prescribed Burning	40	2,512	—	3,955
Firebreak Construction	24	—	180,000	323
TOTALS	362	8,070	180,000	307,407

* Includes 205 acres of replanting.

FIP and ACP cost-share funds provide for payments up to 75 percent of the cost to carry out forest improvement practices. The landowner pays the remainder.

The FIP and ACP programs are administered by the Agricultural Stabilization and Conservation Service (ASCS). The South Carolina State Commission of Forestry is responsible for technical advice and assistance to landowners who apply for cost-share funds.

Table 1. Summary FIP Accomplishments

Fiscal Year	Bare Land Planting			Site Preparation And Planting			Timber Stand Improvement			Prescribed Burning			Firebreak Construction			Allocation	Cost Share Paid Out
	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Feet	Dollars		
1973-74					MONEY NOT RECEIVED UNTIL APRIL 1, 1974. NO ACCOMPLISHMENTS COMPLETED											\$ 468,000	\$ 0
1974-75	82	1,848	30,397	212	5,941	335,862	12	291	3,480	10	887	666	18	186,225	984	629,000	371,689
1975-76	81	1,668	37,056	254	6,378	376,447	3	80	960	24	1,670	1,252	23	254,000	712	939,000	416,000
1976-77	105	2,354	46,657	305	8,786	537,439	5	118	1,416	9	682	512	12	98,675	238	1,037,940	586,262
1977-78	147	3,782	74,315	443	14,797	888,335	6	179	3,912	2	320	240	1	5,000	10	1,116,000	966,812
1978-79	123	3,336	65,002	422	15,592	1,095,012	2	55	1,650	Not Covered			Not Covered			1,040,000	1,095,379
1979-80	130	3,089	61,932	732	16,195	1,136,644	9	129	5,068	Under Program			Under Program			1,025,000	1,203,651
TOTALS	668	16,079	315,366	2,368	67,689	4,369,739	37	852	16,486	45	3,559	2,670	54	543,900	1,944	6,254,940	4,639,793

Table 2. Summary by Districts 1979-80

Forestry Incentives Program
Accomplishments Completed

District	Bare Land Plant*			Site Prep & Plant			TSI		Dollars	Prescribed Burn			Dollars	Firebreaks	
	No.	Acres	Dollars	No.	Acres	Dollars	No.	Acres		No.	Acres	Dollars		No.	Feet
Camden	12	290	5,898	95	1,898	125,362	4	72	2,173						
Florence	20	75	1,325	34	1,068	69,871	2	53	1,785						
Kingstree	3	117	1,880	38	907	67,218									
Newberry	24	982	19,902	173	4,303	319,200									
Orangeburg	29	887	17,035	132	4,901	340,593	3	35	1,110						
Spartanburg	19	354	7,636	72	922	55,457									
Walterboro	23	394	8,263	188	2,196	159,006									
TOTALS	130	3,089	61,939	732	16,195	1,136,644	9	129	5,068						

* Includes 554 Acres re-planting

Agriculture Conservation Program
Accomplishments Completed

District	Bare Land Plant**			Site Prep & Plant			TSI		Dollars	Prescribed Burn			Dollars	Firebreaks	
	No.	Acres	Dollars	No.	Acres	Dollars	No.	Acres		No.	Acres	Dollars		No.	Feet
Camden	3	338	6,826	41	781	38,380	6	127	4,078		40	63		21,000	51
Florence	6	154	2,989	5	471	35,821	1	25	735	15	1,930	3,074		8	62,000
Kingstree	3	79	5,761	29	360	31,129				7	12	23			
Newberry	14	353	7,426	38	429	33,128									
Orangeburg	38	407	10,128	55	1,043	72,151				1	30	45		1	30,000
Spartanburg	6	20	412	12	245	20,403									
Walterboro	10	328	7,056	27	380	27,106				17	500	750		25	67,000
TOTALS	83	1,679	40,598	207	3,709	258,118	7	152	4,413	40	2,512	3,955		34	180,000

** Includes 205 Acres re-planting

Young Adult Conservation Corps (YACC)

The Young Adult Conservation Corps (YACC) was funded under Title VIII of the Comprehensive Employment and Training Act (CETA) and is an agreement between the Secretary of Labor and the Secretaries of Agriculture and Interior.

The purpose of YACC is to provide employment and other benefits to young men and women, 16-23, who would not otherwise be currently productively employed. They engage in useful conservation work and aid in completing other projects of a public nature on Federal and non-Federal public lands and waters.

The Forestry Commission originally contracted with the CETA Division of the Governor's office to employ 20 YACC members plus a staff of two forest technicians (supervisors) and a secretary. Funds were reduced for the 1979-80 fiscal year and 19 corps member positions were approved. The budget was \$193,731.

In May 1980 the Commission was advised by CETA that \$26,000 would have to be cut from the current fiscal year budget. This reduction meant reducing the enrollee level immediately by three corps members plus six by attrition by September 30, 1980. Also one supervisor, a permanent employee, was terminated because of the reduction in funds.

The corps members assist with routine work on the state forest and nursery properties in addition to performing jobs requiring funds where state funds were not available.

Activities include: construction, finishing concrete, painting and repair work of buildings, windrow removal, timber stand improvement, construction of fences, planting seedlings and seed orchard grafts, grafting rootstock, harvesting genetically improved pine seed, construction of rooting shed, lifting and packing seedlings, beautification projects and other work relating to forestry.

Besides providing meaningful employment, an effort is made to train the corps members, in skills that will make them more competitive in the job market.

The YACC program is a good one that produces beneficial effects, not only for the corps members, but for South Carolina's landowners interested in planting trees.

The Sand Hills project was transferred to Coastal Nursery for more efficient use of the manpower. Creech Seed Orchard and Piedmont Nursery retained their projects.

One important job YACC is performing is that of assisting the S. C. Christmas tree industry. A rooting shed was built by YACC funds and the corps' members cut Leyland cypress branches and are rooting them for the S. C. Christmas Tree Growers Association. Leyland cypress has to be grown from cuttings.

An interesting side effect of the rooting shed is that soft tissue grafts can be performed during the summer months. This new technique in grafting will help speed up the establishment of additional acreages of seed orchards.

State Forests

There are four state forests operated by the Forestry Commission:

Cassatt State Forest	462 acres
Harbison State Forest	2,188 acres
Manchester State Forest	28,830 acres
Sand Hills State Forest	92,000 acres
TOTAL	123,480 acres

Prior to acquisition by the state most of the land included in the state forests had been heavily cut over and generally misused. The primary efforts since acquisition by the state have been directed to building up the growing stock in existing forest stands, planting submarginal old fields to desirable species of forest trees, developing an adequate multiple use and wildlife management program, and protection of endangered species; both plant and animal.

It is the objective of the S. C. State Commission of Forestry to practice on forestlands under its jurisdiction and to promote on other ownerships where applicable the principles of high quality multiple use and sustained yield management, and to promote practices to protect and enhance environmental quality in the management of all forest ownerships.

Multiple use management considers and includes provision for, as appropriate, timber production, grazing, fish and wildlife, air, water, soil, recreation, aesthetics, scenic beauty, environmental quality, wilderness and natural areas, scientific research and ecological considerations.

Multiple use involves the management of all the forest's renewable resources so that they are utilized in the combination that will best meet the needs of the environment and the people of South Carolina.

In most instances forestland is not fully serving the people if it is used exclusively for a purpose which could also be achieved in combination with several other uses. However, multiple use does not imply that all uses must coexist at the same time and place on a given acre of forestland. Because of specific circumstances on a given acre one use might be dominant while other uses are subordinate.

The practice of multiple use therefore usually requires compromise. The Commission believes that such compromise and limitations are acceptable and desirable when there is greater total benefit.

On all state forestlands these concepts of multiple use are adhered to. Silvicultural practices are carried out on small sized blocks interspersed throughout a compartment. This even-age management produces a compartment of the forest representing all age groups of timber, open, newly cleared, areas favored by doves, quail and deer, young dense stands for cover and concealment, and older more open stands for quail, deer, and the endangered red-cockaded woodpecker. Den trees for squirrels are reserved. Game census reports from these forests indicate this method of management produces close to optimum numbers of game species and timber production, with cost of management not adversely affected.

Demonstrations and Meetings

Several large group meetings were held at the state forests to show some of the results of research and experimental work. In addition a large number of individuals and small groups visited the areas to observe methods and results of scrub oak reclamation to productive forestland.

Payment to Counties

Twenty-five percent of the gross receipts of all state forest operations is paid to the counties in lieu of taxes. This year's payments to counties were as follows:

Chesterfield (Sand Hills State Forest)	\$127,870.88
Sumter (Manchester State Forest)	31,630.76
Richland (Harbison State Forest)	1,046.58
Darlington (Sand Hills State Forest)	1,964.70

In the past 22 years since the passage of this Act, the Forestry Commission has paid a total of \$1,796,329.04 to counties where the state forestlands are located as follows:

Chesterfield	\$1,251,889.87
Sumter	616,957.92
Richland	49,605.16
Kershaw	8,349.41
Darlington	32,039.60

Research

Most of the Commission's research efforts were through cooperative studies with either Clemson University or the U. S. Forest Service, Southeastern Forest Experiment Station.

Cassatt State Forest

The area containing 462 acres lies about two and one-half miles north of Cassatt, S. C. It was deeded to the state by J. R. West on May 28, 1935. A CCC Camp was located there and a fire tower and dwelling for the towerman were erected.

Sand Hills State Forest personnel have established and maintained a system of boundary firebreaks. Breaks have also been plowed around plantations and along the public road which crosses this property and all boundary lines have been permanently marked.

Harbison State Forest

Harbison State Forest, containing 2,188 acres, is located in Richland County. The Richland County fire control organization is responsible for fire protection and is assisted by a caretaker. No fires burned on the forest during the year. Receipts totaling \$4,186.33 were received during 1979-80 for salvage of ice damaged trees and pine beetle infested trees.

Most of the Harbison area is well stocked and is in good growing condition. A planned program of cutting is in effect to improve the stand and maintain rapid growth. During the 28 years the state has owned this property, timber receipts have paid for the land purchase plus interest and all operating costs, and have returned a substantial amount to the state and county treasuries.

Manchester State Forest

Manchester State Forest, located south of Wedgefield in Sumter County, contains 28,830 acres. From 1939 to 1955 this land was leased to the S. C. State Commission of Forestry from the federal government. The state received fee title to this property on June 28, 1955. Most of the old fields except those being farmed have been planted to trees.

Four hundred acres of land were rented for agricultural purposes during the year. Some of the tenants renting this land work part-time on the forest.

Game Management:

An intensified program of game management has been introduced in cooperation with Sumter County Game & Fish Association. In addition to utilizing "waste acres" under power lines, permanent wildlife fields and food patches have been established. This fiscal year receipts from hunting and fishing permits totaled \$5,095.70.

Of the 4,557 permits sold, 1,058 were for deer hunting. Thirty-two deer were killed, 13 less than last year. During the year 602 dove

permits were sold, most of those for the first three hunts. Quail hunting accounted for 323 permits. Success was variable depending on knowledge of the area and ability of the dogs. Combination rabbit and squirrel permits totaled 776. One thousand seven hundred and ninety-eight fishing permits were sold.

Recreation other than hunting and fishing includes hiking, berry picking, sightseeing, motorcycling, horseback riding and field trials. During the fall of the year many ride through the forest to view the autumn foliage.

Tree Planting:

One hundred thirty-nine acres were planted this year. Longleaf pine was planted on 130 acres and 8 acres were planted with improved loblolly pine. One acre was planted to redcedar.

Forest Products sold and Other Receipts 1979-80:

Sawtimber — 329,876 bd. ft.	\$ 70,938.40
Pulpwood — 251.79 cords	4,236.36
Rentals, leases, and miscellaneous	51,308.29
Hunting and Fishing	5,095.70
Total Receipts	\$131,578.75

Silvicultural Practices:

One hundred and eight acres were cleared by root raking and 108 acres were plowed. The total area cleared of scrub oak and planted to pine on this forest is now 10,942 acres. Sixty acres of pine were released from scrub oak competition and 300 acres prescribed burned.

Forest Fire Protection:

Nine forest fires occurred during 1979-80, burning a total of 27 acres. Monthly checks were made for insect and disease damage. Research in cooperation with the Southeastern Forest Experiment Station is being continued.

In addition to the formal research projects, demonstration areas were used by Clemson students, 4-H clubs and other interested groups.

Shaw Air Force Base Lease:

The U. S. Air Force has under lease 7,687 acres of Manchester State Forest as an aerial gunnery range to train pilots from various Air Force bases in the southeastern United States. The South Carolina Air National Guard has access to the range and uses it frequently.

Sand Hills State Forest

Sand Hills State Forest, located in the scrub oak-longleaf pine type in Chesterfield and Darlington Counties, consists of 92,000 acres. Half of the area is administered by the U. S. Fish and Wildlife Service as a wildlife refuge. The State Commission of Forestry handles fire protection and forest management activities on the refuge and manages the other half as a multiple use forest. The area is leased from the federal government on a 95-year lease. During the fiscal year 1965-66, receipts from sales and rentals since acquisition exceeded all expenditures by the state and the area became self-supporting. All revenue over operating expenses is now expended on the area for further multiple use improvements and operations.

Before the area was acquired by the government, it was heavily cut over, badly burned and generally abused. As a result, major activities have consisted of tree planting, fire protection and other practices aimed at building up the productivity of the land and increasing the forest stands for timber and wildlife. Through the use of forest inventory information the cut and distribution of the various age groups of timber will be regulated.

Timber harvesting in this fiscal year has been to release natural seedlings in understocked stands, remove understocked stands for site preparation, thinnings, and improvement cuts.

A forest management plan is in effect which emphasizes all multiple use concepts. It is planned for each larger area of the forest called a compartment to contain stands of various age groups and species composition plus openings of farm land and/or wildlife fields. Quality mast-producing hardwoods are maintained wherever the sites permit their growth. Important consideration is given the red-cockaded woodpecker, an endangered species, in all management planning and according to the mandates of the Endangered Species Act of 1973.

Research is conducted on the forest by the Southeastern Forest Experiment Station and universities. Demonstration areas are maintained to instruct interested individuals and groups such as 4-H, Boy Scouts, Tree Farmers and foresters.

Tree Planting:

Tree planting consisted of areas clearcut and site prepared. A total of 321 acres were planted of the following species:

Longleaf	225,000
Improved Slash	7,000
Improved Loblolly	30,000
Total	262,000

Forest Receipts for 1979-80 Fiscal Year:

Timber Sales	\$621,642.72
Land Rental & Miscellaneous (stumps, pine straw, etc.) Receipts	26,120.87
Hunting and Fishing Permits	7,426.00
Total	\$655,189.59

Silvicultural Practices

During the 1979-80 fiscal year, 3,562 acres were prescribed burned. Thirty-eight acres were burned and disked for planting; and 20 acres were cleared and disked, part of this to be rented for watermelons one year and then planted with pine seedlings.

Fire Protection and Suppression:

All suitable boundary lines were disked and breaks disked along all major roads and railroads for fire protection. The prescribed burning listed above gives good protection due to the scattered pattern. Fifty-one wildfires occurred, burning a total of 56 acres.

Recreation:

The Sugar Loaf Mountain recreation area continued to receive heavy use. Besides the naturally formed Sugar Loaf Mountain, which is about 150 feet high, there are five picnic shelters, a lake, fireplaces, a flowing well, parking areas, and latrines. Scout troops and other organized groups use this area and facilities for overnight camping. Many auto touring visitors drive through this forest, especially when the oak leaves color in the fall and to view the rhododendron near Sugar Loaf Mountain in the spring. A nature trail is available for hiking which winds through a branch and an undisturbed wooded area showing many species of mature trees.

Fish and Wildlife:

Hunting and fishing are conducted in season by permit on the forest area. Close cooperation by the Commission of Forestry, the State Wildlife Resources Commission and the U. S. Fish and Wildlife Service prevails. Deer, dove, and quail food patches are planted and maintained by the Commission of Forestry.

There are 13 ponds available for fishing on the forest. These are maintained through fertilization and weed control. Fishing permits totaled 2,112 daily and 568 season for this year.

Dove, quail, squirrel, deer and rabbit hunting were permitted on the state forest portion of the Sand Hills State Forest. Permit sales totaled 176 for dove, 142 for squirrel, 722 daily and 3 season for quail, 91 daily and 117 two-week season for deer, and 18 daily for rabbit.

Other State Lands Forest Management Program

During fiscal year 1979-80 nine agencies requested and received forestry assistance. A management plan was prepared on one tract of 443 acres. Forest products sales totaled 1,121,493 board feet of sawtimber and 6,195 cords of pulpwood for an income of \$204,952.79. Seventy-four acres were site prepared and planted to tree seedlings.

The following is a breakdown by agencies of work accomplished during 1979-80:

Dept. of Corrections — Sale of 77,939 board feet of sawtimber and 125 cords of pulpwood for an income of \$13,749.33.

Division of General Services — Sale of 110,935 board feet of sawtimber for an income of \$20,423.00. A management plan was prepared on 443 acres.

Greenwood County — Sale of 25 cords of pulpwood for an income of \$261.15.

John de la Howe School — Sale of 95,155 board feet of sawtimber and 195 cords of pulpwood for an income of \$11,017.58. Twenty-four acres were site prepared and planted to tree seedlings.

Dept. of Mental Health — Sale of 80,171 board feet of sawtimber and 30 cords of pulpwood for an income of \$14,578.14.

Opportunity School — Sale of 30 cords of pulpwood for an income of \$394.68.

Division of State Parks — Sale of 169,306 board feet of sawtimber and 4,538 cords of pulpwood for an income of \$54,351.03.

Wildlife and Marine Resources — Sale of 574,037 board feet of sawtimber and 1,242 cords of pulpwood for an income of \$88,753.88. Fifty acres were site prepared and planted to tree seedlings.

Youth Services — Sale of 13,950 board feet of sawtimber and 10 cords of pulpwood for an income of \$1,424.00.

*Other State Lands Forest Management Program
1979-80 Forest Products Sales*

<i>Agency & Sales No.</i>	<i>Purpose of Cut</i>	<i>Acres</i>	<i>Bd. Ft.</i>	<i>Cords</i>	<i>Sale Price</i>
Dept. of Corrections					
Piedmont Pre-Release 3-M-1	Clear Construction Area			68	\$ 1,941.33
Walden 3-M-3	Clear Construction Area	24	77,939	57	11,808.00
Division of General Services					
West Columbia Armory 3-M-1	Clear Construction Area	23	110,935		20,423.00
Greenwood County					
Greenwood Airport 3-M-2	Bug Salvage			25	261.15
John de la Howe School					
de la Howe 3-M-12	Bug Salvage		95,155	195	11,017.58
Dept. of Mental Health					
Crafts-Farrow 3-M-2	Power Line R-O-W	7	80,171	30	14,578.14
Opportunity School					
Opportunity School 3-M-1	Clear Construction Area			30	394.66
Division of State Parks					
Cheraw 3-M-25	Bug & Dead Tree Salvage			326	1,304.49
Croft 3-M-18	Bug Salvage			812	4,062.50
Croft 3-M-19	Clear for Landfill	44	55,986	151	6,350.50
Greenwood 3-M-6	Bug Salvage & Power Line R-O-W			239	2,392.20
Hunting Island 3-M-1	Clear Construction Area			21	249.00
Kings Mountain 3-M-7	Bug Salvage			2,471	29,843.72
Oconee 3-M-5	Bug Salvage		113,320		7,139.16
Paris Mountain 3-M-11	Tornado Salvage			468	2,809.98
Sesqui 3-M-10	Clear Construction Area			10	39.48
Table Rock 3-M-5	Bug Salvage			40	160.00
Wildlife & Marine Resources					
Santee Reserve 3-4	Improvement Thinning	390	574,037	1,162	87,588.00
Styx 3-M-2	Enlarge Field	6		80	1,165.88
Youth Services					
Willow Lane 3-M-7	Road R-O-W		13,950	10	1,424.00
			1,121,493	6,195	\$204,952.79

The following table shows, by agencies, the number of acres for which long-range forest management plans have been prepared since the project began.

Department of Corrections	2,100
Department of General Services	443
Greenwood County	1,343
John de la Howe School	1,403
Department of Mental Health	1,895
Department of Mental Retardation	2,033
S. C. State College	286
Dept. of Parks, Recreation, & Tourism	43,345
Wildlife and Marine Resources	15,378
Department of Youth Services	481
	<u>68,707</u>

Management plans for other state agency lands will be made as requested and time permits.

INSECT AND DISEASE

Forest Insect and Disease Control Activities

The Forestry Commission cooperates with the State Plant Pest Regulatory Service and the U. S. Forest Service, Division of Forest Insect and Disease Management in a program to detect, evaluate, and suppress forest pests. Cooperative agreements with these two agencies make their technical assistance and advice available to the Commission of Forestry.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, require control action, or which may present new problems. Aerial surveys are made periodically of specific pests to determine occurrence and the need for suppression action.

During this past year reconnaissance surveys revealed that the southern pine beetle population was becoming epidemic in 17 piedmont counties of South Carolina. Subsequently, State Forester Leonard A. Kilian, Jr. declared a forest pest outbreak in that area and beetle suppression activities were initiated. Data from a July pre-suppression flight indicated that 23 million board feet and 47,000 cords of pine was already infested by the beetle. This timber had a stumpage value of 4.3 million dollars. A subsequent flight in December raised the total of timber killed to 65.5 million board feet and 130,000 cords valued at 9.3 million dollars. It was also necessary to expand the infestation zone to 20 piedmont counties. At this time the Forestry Commission employed 4 forest technicians to assist private landowners in timber salvage operations. As of June 30, 1980, 151,952 cords and 3,446,000 board feet had been salvaged. This made the salvage efficiency of the project 51%. Seven detection flights conducted in coastal counties throughout the fiscal year indicated that there was no major southern pine beetle problem in the lowcountry region.

The Forestry Commission was called upon by the governor's office to supply data to the U. S. Department of the Interior that there was no need to award the Congaree National Park special air quality protection. Based on an extensive literature search, and consultations with experts in the field of pollution damage to trees, we concluded that there would be no damage to forest vegetation at current or anticipated pollution levels.

Oak wilt disease is known to occur in Chesterfield, Kershaw, Lancaster, Lee and Richland Counties. It appears to be spreading very slowly and causing losses to low value oaks. Since there is potential for loss in valuable trees such as shade trees, periodic surveys are made to keep up with the spread.

Dutch elm disease has been confirmed in Aiken, Anderson, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Lancaster, Laurens, Lexington, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg and York Counties. It probably occurs in the other piedmont counties and is expected to gradually spread throughout the state. The primary agent of spread, the smaller European elm bark beetle, occurs statewide.

Commission foresters made approximately 2,000 field checks of insect and disease problems. Appropriate recommendations for prevention and control were given in each case. Numerous inquiries were handled by telephone, mail, and personal contact that did not require field checking.

TRAINING SECTION

The Training Section directs, coordinates and evaluates the Forestry Commission training in all subject areas.

Each year a training schedule is prepared in cooperation with all program managers. This helps to set priorities and to insure that needed training is planned for and given in a logical order.

Standard training programs have been prepared or are being prepared for new employees in all job areas. These programs will ensure that all subjects are covered in a logical order and will help the new employee reach the standards for the assigned job as soon as practical. Programs are in use for foresters, fire tower operators, mechanics, wardens and radio technicians. Programs for other jobs will be prepared on a regular basis.

A training library including manuals, films, tapes, slides, etc., is maintained.

Training highlights for 1979-80 included the following:

1. Basic Fire Fighting School was organized and conducted for new fire wardens. This three day school will be held at least once a year for new personnel.
2. Western Fire Team Training was conducted for fire team members.
3. Hardwood Management Workshop was held for foresters.
4. Forest Tax School was held for foresters.
5. A Small Game Management Workshop was conducted in cooperation with S. C. Wildlife and Marine Resources, Clemson University Extension Service, and the Soil Conservation Service. This was attended by our foresters and personnel from the other three agencies.
6. A Communication Skills Workshop for foresters was held.
7. A Prescribed Burning School was conducted for selected foresters. This will be an annual school.

8. An Aerial Safety Training Session was held for aerial observers.
9. Four days of maintenance and preventive maintenance training was given to mechanics.
10. A fire fighting training and reference manual was written and issued to fire control personnel.

Nurseries

The Forestry Commission continued to operate four forest tree nurseries for the production and distribution of tree seedlings to landowners in South Carolina. The nurseries distributed 46,374,919 seedlings for planting during the 1979-80 planting season. An additional 31,372,700 seedlings were either produced in state by industry nurseries or brought into the state by others. A grand total of 76,206,619 seedlings were planted in South Carolina. The balance of 1,541,000 were planted out of state.

The cost of seedlings f.o.b. varied from \$9.00 to \$30.00 per thousand depending on species. A charge of \$2.00 per thousand was made for seedlings delivered to county seats by nursery trucks.

The demand for Commission grown seedlings was strong in the early part of the planting season, partially because of the Forestry Incentives Program. However, excessive rainfall made it impossible for landowners to get some of the land prepared. This resulted in many cancellations. We were not able to meet all demands for improved coastal loblolly seedlings but were able to supply other varieties or species requested. Seedling sales are expected to increase for the 1980-81 planting season.

Distribution of Seedlings

Of the 46,374,919 forest tree seedlings produced in state forest tree nurseries during the year, 1,541,000 seedlings were sold out of state.

Nursery production by species was as follows:

Improved Coastal Loblolly	12,672,060
Regular Coastal Loblolly	10,234,440
Improved Piedmont Loblolly	15,618,504
Regular Piedmont Loblolly	4,164,950
Improved Slash	765,250
Longleaf	1,551,500
White Pine	733,000
Virginia Pine	361,500
Redcedar	162,525
Yellow-Poplar	54,000
Sweetgum	6,000
Scotch	8,025

Black Walnut	23,500
Sand Pine	12,000
Misc.	<u>7,665</u>
TOTAL	46,374,919

Seedlings of several species of trees were furnished to the S. C. Department of Highways and Public Transportation to assist them in their project to beautify South Carolina highways. These seedlings consisted of 2,000 dogwood, 1,100 crepe myrtle and 1,250 redbud. These seedlings were included in the previously mentioned totals.

Tables in this report give a record of seedlings distributed by counties and class ownership. Another table shows the total acreage planted and the number of acres in need of planting by counties.

The Cumulative Tree Planting Table records the number of seedlings distributed in South Carolina by years including those shipped for planting out of state.

S. C. STATE COMMISSION OF FORESTRY
 TREE SEEDLING DISTRIBUTION
 BY
 LANDOWNER CLASSIFICATION
 1979-80

A. State Nursery Source Seedlings Planted in the State:

<u>Land Ownership</u>	<u>Percent of Total</u>	<u>No. Trees Planted</u>
Farmers	17.0	7,636,504
Other Individuals	21.7	9,716,115
Associations & Clubs	2.0	782,500
Lumber Companies	4.3	1,940,000
Pulp & Paper	38.6	17,315,450
Other Industry	10.5	4,710,000
Schools .....	.3	146,000
State Forest .....	.8	387,500
Other State Lands .....	.1	67,350
City, Town, Government .....	.1	87,000
Federal Government	4.5	2,020,500
Watersheds .....	.1	25,000
TOTALS	100.0	44,833,919

B. Other Source Seedlings Planted in the State:

Champion International	4,435,500
Continental Forest Industries	1,852,000
Federal Paper Board	1,533,000
Georgia Pacific Corp.	140,100
Hiawasee	3,818,000
N. C. Forest Service	2,934,200
Union Camp	1,492,700
U. S. Forest Service	1,281,000
Westvaco	13,886,200
TOTAL	31,372,700
TOTAL SEEDLINGS PLANTED IN THE STATE	76,206,619

C. State Nursery Source Seedlings Shipped Out of State: 1,541,000

D. Direct Seeded:
 None

CUMULATIVE TREE PLANTING RECORD AND PLANTING NEEDS — ALL SOURCES

County	Seedlings Planted 1929-79	Seedlings Planted 1979-80	Grand Total Planted to date 1929-79	Acres Planted 1929 thru 6/30/80	Acres in need of Planting as 6/30/80
Abbeville	35,745,787	1,664,100	37,409,887	40,818	18,783
Aiken	162,238,093	3,081,000	165,319,093	170,493	186,874
Allendale	56,840,295	1,813,600	58,653,895	61,499	29,056
Anderson	35,402,624	798,668	36,201,292	37,463	46,998
Bamberg	31,189,984	533,050	31,723,034	33,041	28,197
Barnwell	81,480,256	2,477,400	83,957,656	86,880	73,974
Beaufort	16,609,845	523,600	17,133,445	18,583	66,609
Berkeley	69,309,016	2,939,350	72,248,366	80,758	55,462
Calhoun	19,424,495	932,000	20,356,495	21,820	34,722
Charleston	17,596,250	2,588,500	20,184,750	23,697	43,128
Cherokee	20,440,579	618,500	21,059,079	22,315	42,183
Chester	47,238,939	2,040,550	49,279,489	76,651	28,678
Chesterfield	99,730,165	1,648,500	101,378,665	106,560	150,433
Clarendon	34,263,920	924,890	35,188,810	38,250	13,192
Colleton	62,607,526	3,101,600	65,709,126	83,806	59,648
Darlington	22,508,745	936,200	23,444,945	25,843	47,801
Dillon	14,132,190	679,200	14,811,390	16,136	18,883
Dorchester	37,903,166	2,127,565	40,030,731	43,358	38,967
Edgefield	37,399,618	1,663,100	39,062,718	43,521	34,833
Fairfield	48,788,391	2,585,700	51,374,091	55,462	42,737
Florence	14,928,281	834,850	15,763,131	17,860	44,017
Georgetown	68,995,000	4,753,100	73,748,100	80,892	34,970
Greenville	21,640,654	402,500	22,043,154	23,090	51,126
Greenwood	47,902,845	2,397,766	50,300,611	46,793	20,017
Hampton	58,969,679	2,279,100	61,248,779	66,598	20,955
Horry	44,513,145	1,695,640	46,208,785	50,837	114,996
Jasper	53,307,630	2,491,500	55,799,130	60,803	45,045
Kershaw	135,794,617	3,090,000	138,884,617	146,345	115,959
Lancaster	41,981,224	2,398,500	44,379,724	48,620	21,436
Laurens	59,784,695	2,186,600	61,971,295	66,763	25,742
Lee	17,453,940	656,220	18,110,160	19,256	22,165
Lexington	44,828,322	627,000	45,455,322	47,220	113,424
Marion	19,782,455	555,000	20,337,455	22,961	44,103
Marlboro	35,471,058	1,184,000	36,655,058	39,968	38,822
McCormick	23,231,275	1,800,100	25,031,375	28,330	23,815
Newberry	42,698,302	2,764,770	45,463,072	50,842	37,560
Oconee	24,746,873	607,000	25,353,873	26,890	90,555
Orangeburg	68,914,951	2,464,750	71,379,701	76,946	81,011
Pickens	19,603,625	343,500	19,947,125	20,938	37,063
Richland	47,514,565	836,600	48,351,165	51,617	100,014
Saluda	19,144,851	2,751,100	21,895,951	25,113	18,335
Spartanburg	43,410,396	1,091,050	44,501,446	46,578	47,817
Sumter	50,157,802	552,900	50,710,702	52,922	42,677
Union	46,904,878	910,000	47,814,878	52,320	44,034
Williamsburg	42,782,842	2,026,500	44,809,342	51,304	56,574
York	41,379,996	829,500	42,209,496	44,454	44,657
Total	2,086,693,785	76,206,619	2,162,900,404	2,353,214	2,398,047
Out-of-State	57,287,178	1,541,000	58,828,178	—	—
Grand Total	2,143,980,963	77,747,619	2,221,728,582	2,353,214	2,398,047

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES, AND AMOUNTS
1979-80**

County	Improved Coastal Lob.	Regular Coastal Lob.	Improved Piedmont Lob.	Regular Piedmont Lob.	Slash	Longleaf	White Pine
Abbeville			1,415,500	244,000			1,600
Aiken	133,500	84,500	1,719,500	964,000	1,000	137,000	21,000
Allendale	858,500	785,100	159,000	10,000			1,000
Anderson	2,000		681,668	32,000	1,000		50,000
Barnberg	180,500	192,550	145,000		1,000	1,500	1,000
Barnwell	415,000	434,400	403,000	1,069,000	500	140,000	7,500
Beaufort	32,500	439,100			39,500		3,000
Berkeley	1,739,800	800,050			10,000	386,000	1,000
Calhoun	516,500	190,000	154,000	42,000	1,000	12,000	5,000
Charleston	1,874,300	621,700	2,000		44,500	24,000	1,000
Cherokee			571,500	25,000	500	2,500	7,500
Chester		5,000	1,509,500	513,450		1,000	4,600
Chesterfield	16,000	268,000	970,500	72,500	500	397,000	5,000
Clarendon	495,740	421,200					1,000
Colleton	1,114,500	1,982,100			2,500	500	1,500
Darlington	388,700	460,000	62,000		3,500	4,000	6,000
Dillon	538,000	110,200	500		4,500	1,000	2,000
Dorchester	826,200	1,282,550			10,500	1,500	1,500
Edgefield		100,000	1,439,000	113,000			4,100
Fairfield	211,000		2,038,000	329,000	500		3,200
Florence	538,400	212,000	50,000		1,500	6,000	7,000
Georgetown	2,358,000	2,337,600			20,500	31,000	500
Greenville			184,500	46,000		4,500	124,000
Greenwood	20,000		2,297,666	65,000			2,600
Hampton	710,100	1,453,500			60,500	50,000	2,500
Horry	935,500	746,640			500	7,500	2,500
Jasper	623,000	1,842,250			24,250	1,000	
Kershaw	147,000	116,500	1,953,000	781,000	11,500	50,000	9,000
Lancaster	28,000	173,000	1,672,000	479,500		40,000	5,000
Laurens	12,000	11,000	1,739,000	396,000		500	10,600
Lee	184,220	129,000	211,500	115,500	6,500	4,000	5,500
Lexington	90,000	4,500	189,500	181,000	3,500	108,500	18,500
Marion	527,000	5,000			4,000	500	9,500
Marlboro	324,000	159,500	420,000	98,000	26,000	140,000	3,500
McCormick	40,000		1,644,000	109,500	1,000		100
Newberry			2,540,170	211,000			2,600
Oconee		500	146,500	209,500			165,000
Orangeburg	1,073,200	1,021,600	179,000	98,000	5,000	51,000	12,000

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1979-80 — Continued**

<i>County</i>	<i>Improved Coastal Lob.</i>	<i>Regular Coastal Lob.</i>	<i>Improved Piedmont Lob.</i>	<i>Regular Piedmont Lob.</i>	<i>Slash</i>	<i>Longleaf</i>	<i>White Pine</i>
Pickens			123,000	61,000	500	500	124,500
Richland	411,100	160,000	206,500	29,000	500	3,000	7,500
Saluda		100,000	2,451,500	182,500	5,000	1,000	2,100
Spartanburg	1,500		726,000	249,500	1,500	4,500	52,500
Sumter	233,900	110,500	64,500	500	2,000	122,500	10,000
Union			798,000	105,500		1,000	2,500
Williamsburg	1,463,500	553,000					3,000
York		19,000	558,000	199,000		500	22,000
Sub-Totals	19,063,160	17,331,540	29,425,004	7,030,950	295,250	1,645,500	733,000
Out-of-State		462,000	239,000	270,000	470,000	100,000	
GRAND TOTALS	19,063,160	17,793,540	29,664,004	7,300,950	765,250	1,745,500	733,000

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1979-80**

County	Virginia Pine	Redcedar	Yellow- Poplar	Sweetgum	Scotch	Black Walnut	Sand Pine	Misc.	Totals
Abbeville	1,000	1,500	500						1,664,100
Aiken	12,500	5,500	1,000	500		500	500		3,081,000
Allendale									1,813,600
Anderson	18,500	8,500	1,000		3,000	1,000			798,668
Bamberg	10,500	1,000							533,050
Barnwell	4,500	2,000	500		500		500		2,477,400
Beaufort	5,000	3,500	500				500		523,600
Berkeley	1,500	1,000							2,939,350
Calhoun	4,000	2,500	4,500			500			932,000
Charleston	11,000	5,000	2,000	1,500			1,500		2,588,500
Cherokee	3,000	500	7,000	500				500	618,500
Chester	5,500				1,000	500			2,040,550
Chesterfield	2,000	7,000							1,648,500
Clarendon	3,500	2,000						1,450	924,890
Colleton	500								3,101,600
Darlington	7,500	3,000	1,000			500			936,200
Dillon	1,500	21,000				500			679,200
Dorchester	2,500	1,000				500		1,315	2,127,565
Edgefield	4,500	500				2,000			1,663,100
Fairfield	1,500	500	2,000						2,585,700
Florence	3,000	14,000	1,000				500	1,450	834,850
Georgetown	5,000						500		4,753,100
Greenville	33,000	2,500	5,500	1,500		500	500		402,500
Greenwood	10,000	2,500							2,397,766
Hampton	1,000	1,500							2,279,100
Horry	1,500	1,500							1,695,640
Jasper			1,000						2,491,500
Kershaw	13,000	7,500	500			1,000			3,090,000
Lancaster	500	500							2,398,500
Laurens	13,000	3,500				1,000			2,186,600
Lee									656,220
Lexington	15,000	13,000	1,500			500	1,500		627,000
Marion	8,500		500						555,000

**SOUTH CAROLINA STATE COMMISSION OF FORESTRY
SEEDLING DISTRIBUTION FROM STATE NURSERIES AND
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS
1979-80 — Continued**

<i>County</i>	<i>Virginia Pine</i>	<i>Redcedar</i>	<i>Yellow- Poplar</i>	<i>Sweetgum</i>	<i>Scotch</i>	<i>Black Walnut</i>	<i>Sand Pine</i>	<i>Misc.</i>	<i>Totals</i>
Marlboro	5,000	6,000	2,000						1,184,000
McCormick	3,500	500	1,000			500			1,800,100
Newberry	10,500	500							2,764,770
Oconee	35,000	2,000				1,500		47,000	607,000
Orangeburg	9,500	8,000	2,500	500		2,000	1,000	1,450	2,464,750
Pickens	8,000	7,000	1,000	500	2,500	10,000	5,000		343,500
Richland	11,000	6,500	1,000			500			836,600
Saluda	6,500	2,000			500				2,751,100
Spartanburg	35,500	4,525	14,000	1,000	525				1,091,050
Sumter	1,500	6,000	500					1,000	552,900
Union	1,000		2,000						910,000
Williamsburg	1,000	6,000							2,026,500
York	29,500	1,000						500	829,500
Sub-Totals	361,500	162,525	54,000	6,000	8,025	23,500	12,000	54,665	76,206,619
Out-of-State									
GRAND TOTALS	361,500	162,525	54,000	6,000	8,025	23,500	12,000	54,665	77,747,619

Miscellaneous Species

Shortleaf Pine	47,000
Magnolia	1,047
Redbud	1,750
Crape Myrtle	1,600
Dogwood	3,268
TOTAL	54,665

<i>Year</i>	<i>Total Distributed (State Nurseries)</i>	<i>Total Distributed (Inc. Other Sources)</i>
1928-29	142,000	142,000
1929-30	148,000	148,000
1930-31	986,000	986,000
1931-32	976,000	976,000
1932-33	996,000	996,000
1933-34	1,031,000	1,031,000
1934-35	7,529,000	7,529,000
1935-36	23,000,000	23,000,000
1936-37	22,000,000	22,000,000
1937-38	11,192,000	11,192,000
1938-39	10,854,000	10,854,000
1939-40	12,244,000	12,244,000
1940-41	21,165,423	21,165,423
1941-42	10,275,037	10,275,037
1942-43	4,742,010	4,742,010
1943-44	5,662,608	5,662,608
1944-45	1,926,840	1,926,840
1945-46	6,402,255	6,402,255
1946-47	1,962,600	1,962,600
1947-48	11,356,990	11,356,990
1948-49	30,338,775	30,338,775
1949-50	29,501,955	29,501,955
1950-51	20,615,315	20,615,315
1951-52	16,619,000	16,619,000
1952-53	22,035,850	32,246,298
1953-54	36,210,100	42,852,314
1954-55	35,373,025	45,182,255
1955-56	34,413,550	42,931,755
1956-57	55,753,600	69,658,736
1957-58	60,846,200	93,369,084
1958-59	123,985,000	166,351,000
1959-60	147,146,365	187,516,418
1960-61	145,609,075	158,330,575
1961-62	71,892,420	83,844,470
1962-63	56,191,241	64,201,541
1963-64	51,445,597	62,423,597
1964-65	49,009,893	60,683,493
1965-66	42,310,685	56,529,185
1966-67	48,575,190	69,597,590
1967-68	39,970,136	58,812,136
1968-69	29,529,285	51,453,285
1969-70	31,415,430	49,202,630
1970-71	31,939,880	54,540,880
1971-72	23,677,925	41,357,225
1972-73	30,977,800	45,239,100
1973-74	28,443,000	42,305,500
1974-75	40,081,500	55,996,500
1975-76	40,664,387	59,063,387
1976-77	39,795,375	59,238,275
1977-78	45,734,500	64,380,200
1978-79	43,009,533	65,936,933
1979-80	46,374,919	76,206,619
TOTALS	1,704,078,269	2,211,117,789

Seedling Survival

One year after seedlings are out-planted, approximately 10% of the plantings in each county are sampled to determine the overall state survival rate. Through these examinations, the Forestry Commission can determine the reason for failures and recommend steps to eliminate such failures in the future. This year the overall state survival indicated by the sampling was 84% compared to 69% the previous year.

Research

The Forestry Commission continued with cooperative research projects with Clemson University. Testing of the chemical "Maintain" continues. This product restricts height growth. It is felt the use of this chemical may allow summer planting.

The Forestry Commission also cooperates with the U. S. Forest Service on research. The most recent work in this area was research with mycorrhiza.

Work with growth and summer out-planting of loblolly and longleaf containerized seedlings continues with promising results of preliminary tests. Most of these seedlings have been planted on the Sand Hills State Forest.

Forest Tree Seed Collection

Each year the Forestry Commission collects cones and other fruit to obtain seed for tree seedling production. Field offices locate private collectors in good seed producing areas to obtain part of the seed that is needed. An increasing amount of seed is now being obtained from our tree seed orchards. These cones are collected by Commission personnel. The seed crop this year was fair to good. Cones and seed collected were as follows: slash pine from seed orchard, 470 bushels; coastal loblolly pine cones from seed orchard, 736 bushels; piedmont loblolly pine cones from seed orchard, 2,192 bushels; regular coastal loblolly 624 bushels; improved Virginia pine cones from industrial seed orchards 110 bushels; 16.5 gallons of dogwood berries; 75 lbs. of redcedar; 1.5 lbs of sweetgum seed; 250 bushels of walnuts in husk; 85 bushels of Sycamore balls from a company seed orchard.

In addition to these collections, we purchased 200 pounds of white pine seed and 25 pounds of crushed baldcypress cones.

The seed extractory was operated for the twenty-third year with continued good results. Seed costs for 1979-80 averaged \$12.34 per pound of seed for seed orchard cones and \$12.51 per pound of seed for others. Seed orchard seed is valued nationally at \$150 to \$300 per pound if available at all.

Forest Tree Improvement

A forest tree improvement program was begun in 1963 by the South Carolina Forestry Commission to provide genetically improved seed for all loblolly, slash and longleaf seedlings grown in Commission Nurseries. Seed orchards have been established as follows:

Piedmont Loblolly Pine (disease resistant)	5 acres
Piedmont Loblolly Pine	40 acres
Second generation Piedmont Loblolly Pine	4 acres
Coastal Loblolly Pine (disease resistant)	5 acres
Coastal Loblolly Pine	31 acres
Coastal Loblolly Pine (1.5 generation)	39 acres
Second Generation Coastal Loblolly Pine	1 acres
South Carolina Slash Pine	44 acres
Georgia Slash Pine	34 acres
Longleaf Pine	12 acres
Virginia Pine	1.5 acres
Arizona Cypress	1.25 acres
TOTAL	217.75

Grafts of scions to root stock in fiscal year 1979-80 consisted of the following:

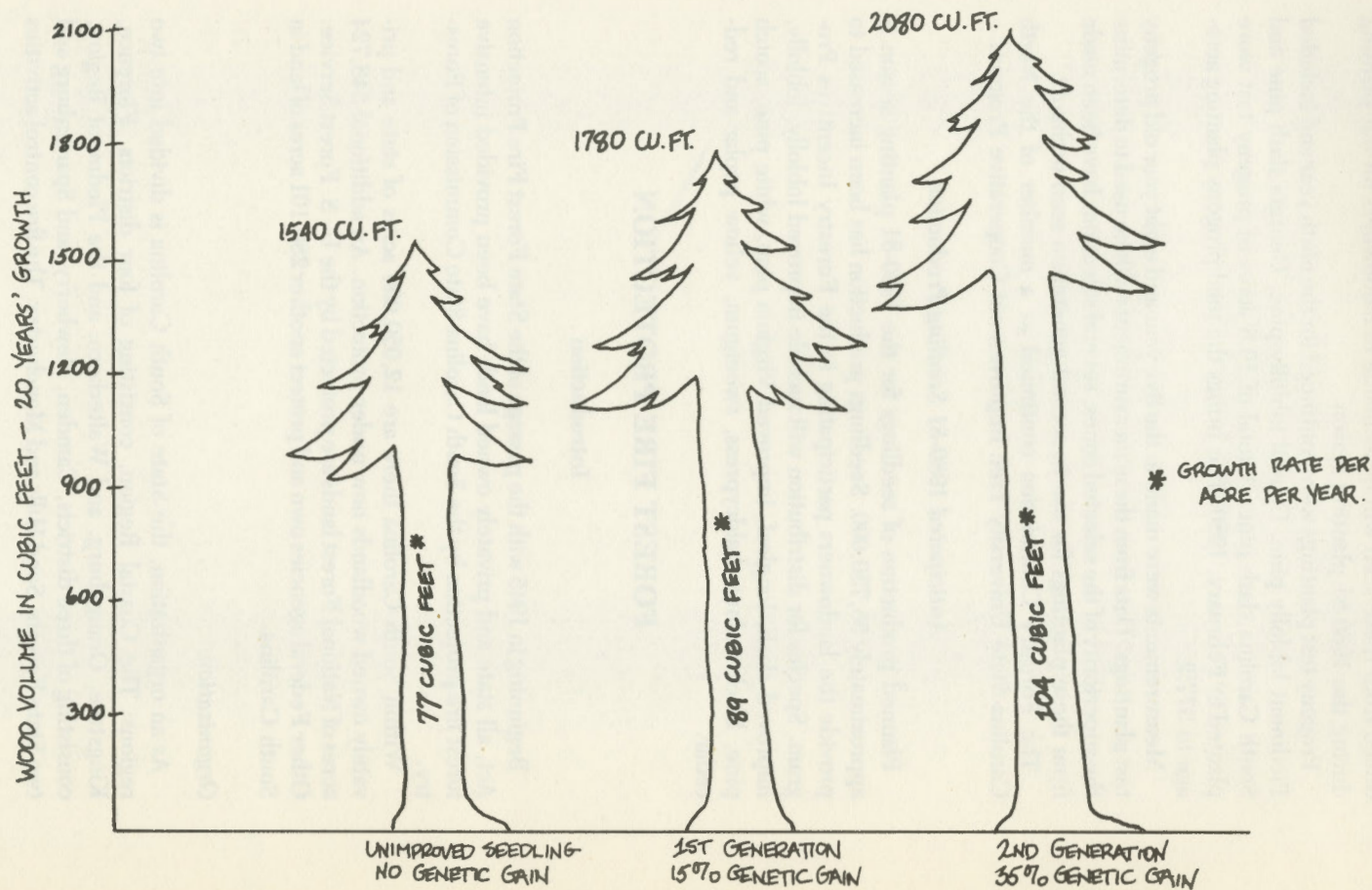
719	second generation coastal loblolly
436	second generation piedmont loblolly
1,801	1½ generation coastal loblolly
289	Virginia Pine
1,026	new plantation selections

Cones collected and seed yields from seed orchards in 1979-80 were as follows:

<i>Species</i>	<i>Bushels Cones Collected</i>	<i>Pounds Seed per Bushel</i>	<i>Total Pounds Seed</i>
Improved Coastal Loblolly	736.5	1.81	1,334
Improved Piedmont Loblolly	2,192	1.55	3,416
Regular Coastal Loblolly	624.5	1.19	746
Improved Slash Pine	470.5	.61	289
Improved Virginia Pine	110	1.05	107

It is anticipated that this seed will produce 10,000,000 Improved Coastal Loblolly pine seedlings, 27,000,000 Improved Piedmont Loblolly pine seedlings, 5,500,000 regular Coastal Loblolly pine seedlings, 1,400,000 Slash pine seedlings. Most of the improved seedlings pro-

GROWTH COMPARISON: GENETICALLY IMPROVED / UNIMPROVED SEEDLINGS



duced from these seed will be available to landowners for out-planting during the 1980-81 planting season.

Progeny test plantings were continued for the ninth year and included Piedmont loblolly pine, Coastal loblolly pine, Georgia slash pine and South Carolina slash pine. A total of 19.8 acres of progeny test were planted in February, 1980. This brings the total progeny planting acreage to 377.2.

Measurements were made in the five year and eight year old progeny test plantings. Data from these measurements will be used to determine the superiority of the selected cones, several selections have been made from these plantings for use in second generation seed orchards.

The Forestry Commission continued as a member of the North Carolina State University Tree Improvement Cooperative Program.

Anticipated 1980-81 Seedling Production

Planned production of seedlings for the 1980-81 planting season is approximately 56,750,000. Seedlings production has been increased to provide the landowners participating in the Forestry Incentives Program. Species for distribution will include improved loblolly, loblolly, improved slash, longleaf, improved Virginia pine, white pine, scotch pine, black walnut, baldcypress, sweetgum, yellow poplar and red-cedar.

FOREST FIRE PROTECTION

Introduction

Beginning in 1945 with the passage of the State Forest Fire Protection Act, all state and privately owned lands have been provided intensive forest fire protection by the South Carolina State Commission of Forestry.

Within South Carolina there are 12,050,000 acres of state and privately owned woodlands now under protection. An additional 548,724 acres of National Forest lands are protected by the U. S. Forest Service. Other Federal agencies own and protect another 280,101 acres of land in South Carolina.

Organization:

As an organization, the State of South Carolina is divided into two regions: The Coastal Region, consisting of four districts, Florence, Kingtree, Orangeburg, and Walterboro; and the Piedmont Region, consisting of three districts, Camden, Newberry, and Spartanburg and two State Forests, Sand Hills and Manchester. The fire control activities

of the state are coordinated and supervised by two regional foresters. In addition, each district is supervised by a district forester, and each state forest is supervised by a forest director. Each of the seven districts consists of several county fire control organizations that work directly with landowners on forest fire prevention, detection and suppression activities. In charge of each of the 46 county units within the seven districts is a County Ranger, who supervises the activities of all Wardens and Tower Operators within the county.

Assisting the various county organizations are the many volunteer personnel encountered while conducting fire control activities. A total of 9,950 volunteer personnel assisted during 1979-80.

Cooperative Agreement with the U. S. Forest Service:

A formal agreement is maintained between the S. C. State Commission of Forestry and the U. S. Forest Service whereby each party agrees to render assistance to the other in detecting and suppressing forest fires along National Forest boundaries.

Law Enforcement

During fiscal year 1979-80 the Forestry Commission had a total of ninety-nine employees commissioned as law enforcement officers. These officers are trained in the various aspects of forest fire law enforcement and are empowered by the Governor to enforce forestry laws in the state. Forest fire law enforcement within South Carolina is accomplished with the cooperation of the State Law Enforcement Division (SLED), County Sheriffs, and other local officers. As in previous years, the cooperation from all law enforcement agencies was excellent.

Law Enforcement records for this year show a total of 43 prosecutions and 42 convictions relating to violations of the state forest fire laws. Three prosecutions and 2 convictions were recorded under the Intentional Burning Law; 23 prosecutions and 23 convictions under the Careless and Negligent Law; 17 prosecutions and 17 convictions under the Burning Notification Law.

Burning Notification Law:

On June 24, 1969, the Governor signed a statewide Notification of Intent to Burn Law for South Carolina. This statewide law repealed burning permit laws in eight counties and burning notification laws in twenty-six counties which had been passed on a county-by-county basis. The State Forester may direct that fires covered in the Notification Act not be started when deemed necessary in the interest of public safety. Burning notifications totalled 51,035 during this fiscal year.

Fire Plans:

Each of the state's 46 counties is provided a fire control plan that guides and controls the various fire suppression activities within the country. These plans are kept current and revised to conform with changing conditions and the latest operating procedures.

A fire control plan is prepared for landowners who request assistance and guidance in maintaining adequate forest fire protection for their woodlands.

Southeastern State Forest Fire Compact Commission:

In 1954 the General Assembly passed legislation enabling South Carolina to join with nine (9) other southeastern states to form a Forest Fire Compact Commission. Other states belonging to the Commission are: Alabama, Georgia, Florida, Kentucky, Mississippi, North Carolina, Tennessee, Virginia and West Virginia. The membership of the Commission for each state is composed of a Company Administrator (the State Forester) and a four-member Advisory Committee. The Advisory Committee for South Carolina consists of: Leonard A. Kilian, Jr., State Forester, Chairman; Senator L. Marion Gressette, Calhoun County; Representative Fred Moore, Honea Path; and three (3) positions are currently vacant.

Twenty-fifth Annual Meeting (SSFFCC) – May 30, 1979:

The twenty-fifth annual meeting of the Southeastern States Forest Fire Compact Commission (SSFFCC) was held on May 30, 1979 at Nashville, Tennessee. State Forester C. W. Moody of Alabama was elected Chairman for the following year and Leonard A. Kilian, Jr., South Carolina State Forester, was elected Vice-Chairman. Roger C. Hatch, U. S. Forest Service, Atlanta, is Secretary-Coordinator.

Southern States Fire Chiefs Meeting:

The meeting of the Southern States Fire Chiefs was held in Raleigh, North Carolina on June 11-12, 1980.

The state of Arkansas will host the next Fire Chiefs meeting and the Missouri Fire Chief will be the program chairman.

Fire Towers:

The Forestry Commission's basic forest fire detection program is accomplished primarily by the interlocking network of 139 forest fire lookout towers. Operating year-round, these towers are strategically located so that each tower's normal range of visibility overlaps with the

next adjoining tower's area. With such overlapping coverage, all smokes and suspected wildfires can be observed, located, and checked out. Temporary manning of Northampton Tower was discontinued.

Tower operators in state and federal towers cooperate in spotting and reporting fires that occur within their range of visibility. Radio communications are maintained between state and federal towers at Kelly-Whitemire, Northampton-Witherbee, and McCormick-Liberty Hill. Detection through the use of spotter aircraft is used extensively by the U. S. Forest Service in South Carolina and in many areas supplemental forest fire detection by towers is performed only on higher fire danger days.

S. C. Disaster Preparedness Agency (Civil Defense):

On April 6, 1973 an act was signed by the Governor providing for Civil Defense and Disaster Control in South Carolina. This act set up an agency to be designated as the South Carolina Disaster Preparedness Agency (formerly Civil Defense).

The South Carolina State Commission of Forestry maintains contact with the S. C. Disaster Preparedness Agency and cooperates closely with them on matters concerning all emergencies and natural disasters that occur. The Forestry Commission also provides communications between Disaster Preparedness Headquarters and local Civil Defense chairmen during civil defense alerts and exercises.

Forestry Commission personnel also participate in exercises conducted by the S. C. Disaster Preparedness Agency.

Air Tanker Program, S. C. State Commission of Forestry

The primary purpose of the air tanker is to aid ground crews in the initial attack of going fires. It is also used in areas of difficult terrain such as boggy areas and steep mountainous slopes where the use of ground equipment is limited. Air tankers cannot replace ground equipment, but because of their capability to respond quickly when needed they can keep a fire from spreading until ground crews can arrive and complete control.

The S. C. State Commission of Forestry has used air tankers for retardant delivery on wildfires for the past two fiscal years. In both years tankers were contracted for the peak fire occurrence months of February, March and April.

It should be noted that both the 1978-79 and 1979-80 fire seasons were well below average in terms of fire danger severity.

The following is an evaluation of the cost-effectiveness of air tankers for the two fiscal years they have been used:

Number of fires on which used	39
Number of hours flown	29:28

Acres estimated saved by tankers	2,749
Estimates of values saved	\$757,904
Cost of program	\$179,000
Benefit/cost ratio	4.2/1

As can be seen from the above figures the air tanker program is cost-effective even in years of low fire occurrence. The benefit/cost ratio improves greatly during normal and above average fire seasons.

Aerial Detection:

Several periods of dry hazardous forest fire weather prompted the need for use of aerial detection during fiscal year 1979-80. Flying is normally conducted during adverse fire weather to supplement the fire towers and detect and check out all fires which occur. Other uses include directing fire fighting activities from the air and law enforcement work.

One aircraft, a Piper Super-Cub, was acquired through the Federal Excess Property Program and assigned to the Orangeburg District for use in the Fire Control program.

Use of aircraft in the fire control program has greatly contributed to the efficiency of the suppression activities. Trained observers and special communications equipment is supplied by the Forestry Commission.

Air Tanker Program:

An air tanker project was carried out during the spring fire season. Air tankers were under contract as follows: 2 aircraft March 1 to April 1 and 1 aircraft March 16 to April 15. In addition, 1 tanker was used thru April 21.

Under a contract with RALCO of Castro Valley, California, three 1,000 gallon tankers were used. The tankers were stationed at Georgetown, Walterboro and Camden. In addition, a satellite base was set up at Marion and a mobile base at Spartanburg.

Although this was a light fire season, the aerial tanker delivery program has proven to be very effective. Its best use is in initial attack and back up for ground suppression units, especially in high value areas where the potential for large losses is great.

SUMMARY OF AIRCRAFT USE — 1979-80

Month	Camden Hours Cost	Florence Hours Cost	Kingstree Hours Cost	Newberry Hours Cost	Orangeburg Hours Cost	Spartanburg Hours Cost	Walterboro Hours Cost	Total Hours Cost
July	— —	— —	— —	— —	— —	— —	— —	— —
August	— —	— —	— —	— —	— —	— —	2.0 —	2.0 —
September	— —	— —	— —	— —	— —	— —	— —	— —
October	— —	— —	— —	— —	2.0 —	— —	— —	2.0 —
November	— —	— —	3.3 —	— —	2.0 —	— —	— —	5.3 —
December	— —	— —	— —	— —	19.0 —	— —	— —	19.0 —
January	— —	— —	— —	— —	1.8 —	— —	— —	1.8 —
February	12.4 —	7.0 —	57.8 —	5.8 —	26.8 —	13.9 —	49.8 —	173.5 —
March	— —	— —	1.2 —	— —	9.2 —	— —	5.7 —	16.1 —
April	11.9 —	21.1 —	37.5 —	10.5 —	20.1 —	13.2 —	25.3 —	139.6 —
May	— —	— —	— —	— —	1.7 —	— —	— —	1.7 —
June	— —	— —	5.0 —	— —	2.0 —	— —	— —	7.0 —
TOTAL	24.3 —	28.1 —	104.8 —	16.3 —	84.6 —	27.1 —	82.8 —	368.0 —

Average Cost Per Hour

HMW

Firebreak Plowing:

Beginning in 1964, the Forestry Commission was authorized to plow firebreaks for private landowners and to charge for this service on an hourly rate. This rate was amended during the 1971 session of the Legislature and the charge is now \$12.00 per hour for all firebreak plowing equipment. During the fifteen (15) years that this firebreak plowing service has been available to woodland owners of South Carolina, a grand total of 15,671 miles of firebreaks (construction and maintenance) have been plowed. Listed below is a summary by district of firebreak plowing for fiscal year 1979-80.

FIREBREAK SERVICE BY DISTRICT

Fiscal Year 1979-80

District	No. of Properties	No. of Hours Plowed	Approximate Miles Plowed
Camden	64	142	145
Florence	53	90	82
Kingstree	56	154	171
Newberry	10	25	18
Orangeburg	96	153	182
Spartanburg	17	46	36
Walterboro	134	309	411
STATE TOTAL	430	919	1,045

Prescribed Burning Assistance:

A special proviso passed July 1972 provided that the S. C. State Commission of Forestry may, upon request, provide reasonable assistance to private persons in the use of fire purposely set to forest lands for specific and/or prescribed forest management objectives. The charge for this service is fifty (50) cents per acre. This prescribed burning assistance is designed to be compatible with Forestry Commission policies and procedures and also closely parallels requirements set up by the S. C. Pollution Control Authority. Forest fire control mechanized equipment and personnel under this practice are assigned to stand by the immediate area to assist should emergency control of this prescribed burning be required. Hand tools, such as backfire torches, fire rakes and swatters are also made available to the landowner.

Assistance was provided to 42 individual landowners, involving approximately 3,227 acres.

Fire Weather Forecasting:

Beginning in July 1965, regular and special fire weather forecasts have been available to the S. C. State Commission of Forestry and other interested agencies and individuals through the National Weather Service Office, West Columbia.

Throughout the fire season, fire weather forecasts are received daily by the Forestry Commission and transmitted to all districts, counties and forestry interests. Special forecasts are available upon request for areas with large going fires and during periods of extreme fire danger.

In the spring of 1980 voluntary smoke management guidelines for forestry prescribed burning operations were adopted. This statewide program was developed by a committee of the South Carolina Forestry Association in cooperation with the South Carolina State Commission of Forestry. The objective of this program is to minimize particulate concentration and smoke in smoke sensitive areas resulting from forestry prescribed burning operations by defining those days and volumes of vegetative debris that may be burned.

Eight training meetings were held throughout the state. Represented at these meeting were: industry, consultants, landowners and various state and federal agencies. A total of 243 people were given this training.

Fire Danger Measurement:

Fire danger measurement stations are located in each county to obtain essential local weather information. This information is disseminated to all fire control personnel for guidance in work planning and fire suppression readiness.

Fourteen of these county weather stations furnish special information to the S. C. fire weather forecasters to assist with general forecasting. Forest fire danger is rated on the National Fire Danger Rating System by class day ranging from 1 to 5, with 1 being the least dangerous and 5 the period of greatest fire danger. During the 1979-80 fiscal year, fire danger station averages indicated the following:

Number of Class 1 Days — 238

Number of Class 2 Days — 84

Number of Class 3 Days — 37

Number of Class 4 Days — 12

Number of Class 5 Days — 1

Legal Fires:

Legal fires are all forest fires which are previously authorized by the landowner, and started by him or his authorized agent and burn entirely upon his land. Legal fire records show that individual landowners conducted 17,071 fires that burned an estimated 547,961 acres for various purposes during 1979-80.

Legal fire categories and the acreage burned are as follows:

<i>Reason for Burning</i>	<i>Number</i>	<i>Acreage</i>
Hazard Reduction	2,855	297,507
Hunting Preserves	816	122,266
Debris Burning	7,774	63,437
Grazing	338	12,058
Miscellaneous	5,288	52,693
Total	17,071	547,961

Rural Community Fire Protection:

The Rural Development Act of 1972, Title IV (Public Law 92-419) and as amended by Public Law 95-113, the Food and Agriculture Act of 1977, authorized the Secretary of Agriculture to develop a three-year pilot Rural Community Fire Protection Project. This program applies to rural communities throughout the United States as was established to provide financial and technical assistance for organizing, training, and equipping local fire fighting forces in communities under 10,000 population. Such qualifying fire departments were able to apply for these funds on a 50-50 matching basis. Funds were utilized mostly on equipment such as hose, protective clothing, communications equipment and breathing apparatus.

Funding began in fiscal year 1975 when South Carolina received \$53,000 for distribution and continued in fiscal year 1976 when \$62,840

was made available. Funding for fiscal year 1977 was set at \$50,200. Funding for fiscal year 1979-80 was \$50,200. One hundred and twelve departments were assisted with these funds.

Federal Excess Equipment for Rural Fire Departments:

During fiscal year 1976-77 the Forestry Commission began lending excess military equipment to rural fire departments. This equipment, loaned to the Forestry Commission by the U. S. Forest Service, is provided to qualifying rural fire departments for conversion to useful pieces of fire fighting equipment. The department receiving this equipment agrees to paint, maintain, insure and respond to calls by the Forestry Commission. All equipment is returned to the Forestry Commission when no longer needed by the department.

Since the Cooperative Rural Fire Program began in January of 1976, two hundred forty eight vehicles and other miscellaneous tanks and spray equipment have been loaned to 164 rural fire departments in South Carolina. At the present time 152 departments have in use 236 pieces of excess property equipment.

Forest Fire Summary:

During fiscal year 1979-80 South Carolina wildfire showed a definite decline in number of fires and acreage burned over the previous year. A grand total of 4,820 wildfires burned 17,639.4 acres during the 12-month period of July 1979 through June 1980. This "grand total" includes wildfire losses from both "forest land" and "non-forest land" categories. The non-forest category refers to land used for non-forest purposes, such as fields, pastures, power line clearings and road right-of-ways, etc.

Forest land fires totalled 4,293 and burned 15,483.2 acres. The average size fire this year was 3.6 acres.

During this year only 4 forest land wildfires occurred that burned over 200 acres. The largest wildfire burned 370 acres and occurred in Charleston County.

Non-forest land fires this year totalled 527 and burned 2,156.2 acres.

The greatest forest land losses were experienced during the months of February (1,284 fires and 6,670 acres), April (627 fires and 2,230 acres) and June (441 fires and 1,876 acres).

Counties recording the greatest forest land losses during the year were Jasper County with 194 wildfires and 1,498 acres burned; Colleton County with 185 wildfires and 1,430 acres burned; and Charleston County with 115 wildfires and 1,202 acres burned.

Counties that experience only very light losses were Union County with 18 wildfires and 37 acres burned; Saluda County with 20 wildfires and 40.6 acres burned; and Cherokee County with 38 wildfires and 44.6 acres burned.

During the 1979-80 fiscal year a total of 1,794 fires were discovered by fire towers and relayed to forest fire control personnel for suppression action. Landowners and cooperating citizens also responded by calling in 3,096 fires to the Forestry Commission.

Forestry Commission personnel also checked out 2,390 false alarms during the year. A "false alarm" is a check on a suspected forest fire that ultimately does not require any suppression action. This includes legal prescribed burnings and legal field fires.

The leading causes of forest land fires in order of importance were: incendiary with 1,479 fires; debris burning with 1,100 fires; and smoking with 635 fires.

Precipitation in South Carolina during 1979-80 averaged 59.03 inches as recorded at the 46 fire danger measurement stations located within the state. This precipitation is 10.71 inches above the state's annual average of 48.32 inches. (The annual average precipitation is compiled by the National Weather Service and is calculated using the 1941-1970 precipitation records.)

Average precipitation was recorded as follows:

<i>Month</i>	<i>Amount Rainfall (Inches)</i>	<i>Departure From Normal (Inches)</i>
July 1979	6.62	+ 0.72
August 1979	3.75	- 1.43
September 1979	10.53	+ 6.16
October 1979	2.48	- 0.40
November 1979	4.83	+ 2.18
December 1979	2.58	- 0.91
January 1980	5.82	+ 2.29
February 1980	2.48	- 1.30
March 1980	11.56	+ 6.72
April 1980	3.28	- 0.28
May 1980	4.66	+ 1.11
June 1980	2.92	- 1.67
Total	59.03	+10.71

A five year summary of precipitation by fiscal year is shown below:

Year	Amount Rainfall (Inches)	Departure From Average (Inches)
1975-76	62.23	+13.91
1976-77	55.13	+ 6.81
1977-78	55.11	+ 6.79
1978-79	57.48	+ 9.16
1979-80	<u>59.03</u>	<u>+10.71</u>
Average	57.80	+ 9.48

**TABLE 1 — PROTECTION PERSONNEL
FISCAL YEAR 1979-80**

	<i>Organized Personnel</i>			<i>Total</i>	<i>Volunteer Personnel</i>	<i>Grand Total</i>
	<i>Ranger</i>	<i>Warden</i>	<i>Tower- men</i>			
Abbeville	1	3	1	5	239	244
Aiken	1	6	5	12	699	711
Allendale	1	3	3	7	40	47
Anderson	1	3	3	7	278	285
Bamberg	1	3	2	6	101	107
Barnwell	1	4	2	7	209	216
Beaufort	1	5	4	10	233	243
Berkeley	1	8	5	14	229	243
Calhoun	1	3	2	6	133	139
Charleston	1	7	3	11	250	261
Cherokee	1	2	1	4	374	378
Chester	1	4	1	6	90	96
Chesterfield	1	4	4	9	341	350
Clarendon	1	5	3	9	179	188
Colleton	1	8	5	14	148	162
Darlington	1	3	3	7	405	412
Dillon	1	3	2	6	42	48
Dorchester	1	6	3	10	116	126
Edgefield	1	3	1	5	73	78
Fairfield	1	5	3	9	500	509
Florence	1	6	4	11	297	308
Georgetown	1	6	4	11	307	318
Greenville	1	4	4	9	412	421
Greenwood	1	3	2	6	23	29
Hampton	1	4	3	8	47	55
Horry	1	8	4	13	292	305
Jasper	1	7	2	10	316	326
Kershaw	1	7	6	14	101	115
Lancaster	1	4	2	7	185	192
Laurens	1	4	2	7	252	259
Lee	1	3	3	7	42	49
Lexington	1	7	5	13	1,025	1,038
Marion	1	5	3	9	106	115
Marlboro	1	5	3	9	127	136
McCormick	1	2	2	5	77	82
Newberry	1	4	2	7	195	202
Oconee	1	3	2	6	71	77
Orangeburg	1	8	5	14	121	135

	Organized Personnel				Volunteer Personnel	Grand Total
	Ranger	Warden	Towermen	Total		
Pickens	1	4	5	10	150	160
Richland	1	7	4	12	304	316
Saluda	1	3	1	5	10	15
Spartanburg		4	4	9	144	153
Sumter	1	5	3	9	241	250
Union	1	3	1	5	75	80
Williamsburg	1	8	4	13	285	298
York	1	4	4	9	166	175
TOTALS	46	216	140	402	9,950	10,352

TABLE 2 — SUMMARY OF FORESTLAND FIRES BY MONTHS
July 1, 1979 — June 30, 1980

Month	No. of Fires	Percent of Total Number	Area Burned (Acres)	Average Area Per Fire (Acres)
July	172	4.0	402.0	2.3
August	191	4.5	517.0	2.7
September	19	0.4	12.3	0.6
October	98	2.3	136.8	1.4
November	199	4.6	377.2	1.9
December	471	11.0	962.0	2.0
January	97	2.2	214.9	2.2
February	1,284	30.0	6,670.0	5.2
March	325	7.5	1,144.5	3.5
April	627	14.6	2,230.6	3.6
May	370	8.6	940.0	2.5
June	441	10.3	1,875.9	4.3
TOTALS	4,293	100.0	15,483.2	3.1

TABLE 3 — FOREST LAND FIRES BY CAUSE — FISCAL YEAR 1979-80

County	Lightning		Campfire		Smoking		Debris Burning		Incendary*		Equipment Use		Railroad		Children		Miscellaneous		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	—	—	—	—	4	7.2	7	11.2	2	11.3	1	0.2	13	28.3	—	—	1	0.2	28	58.4
Aiken	4	13.0	—	—	38	152.6	41	61.4	48	68.6	9	59.0	6	2.9	54	77.0	19	20.4	219	454.9
Allendale	—	—	—	—	18	76.7	15	54.4	6	39.9	5	16.4	5	10.8	1	10.0	4	0.4	54	208.6
Anderson	—	—	2	2.8	18	36.4	6	16.3	9	22.6	4	4.5	1	1.2	4	7.6	5	20.0	49	111.4
Bamberg	—	—	—	—	2	0.6	10	8.9	12	32.4	3	2.4	3	2.0	6	3.2	1	0.8	37	50.3
Barnwell	—	—	—	—	13	50.9	13	24.5	14	28.0	13	47.0	1	24.0	1	0.4	—	—	55	174.8
Beaufort	—	—	—	—	6	4.5	25	197.7	23	97.8	—	—	—	—	2	9.8	—	—	56	309.8
Berkeley	—	—	—	—	18	32.0	93	218.5	164	545.1	7	10.4	3	18.2	14	20.5	—	—	299	844.7
Calhoun	2	5.1	—	—	16	23.5	21	47.2	2	0.9	6	14.8	—	—	2	29.0	4	14.4	53	134.9
Charleston	—	—	1	2.0	10	9.8	32	154.4	43	951.6	—	—	3	8.6	23	70.1	3	6.0	115	1202.5
Cherokee	—	—	1	0.4	17	26.0	5	2.8	3	1.4	4	4.6	2	2.0	4	2.4	2	5.0	38	44.6
Chester	—	—	—	—	21	35.1	2	4.0	—	—	1	4.0	12	33.9	—	—	1	0.2	37	77.2
Chesterfield	7	13.8	2	1.5	15	16.2	24	29.8	67	109.9	7	7.6	21	36.5	5	4.6	3	0.5	151	220.4
Clarendon	—	—	1	15.0	18	43.5	46	133.0	67	348.7	2	0.3	—	—	—	—	1	1.0	135	541.5
Colleton	—	—	2	6.2	14	38.9	25	99.0	122	1243.6	10	10.8	—	—	4	25.0	8	6.9	185	1430.4
Darlington	—	—	—	—	11	41.6	57	144.5	12	63.7	12	9.0	—	—	27	30.8	3	0.8	122	290.4
Dillon	—	—	—	—	17	11.2	29	18.2	7	7.2	1	4.2	3	0.6	6	4.8	1	0.3	64	46.5
Dorchester	—	—	—	—	3	2.5	31	125.6	33	309.2	—	—	—	—	2	1.8	1	1.0	70	440.1
Edgefield	1	21.0	—	—	11	84.4	5	2.9	—	—	4	1.0	1	0.1	8	4.0	4	10.9	34	124.3
Fairfield	3	20.1	3	1.8	22	105.4	5	2.6	9	432.6	6	8.0	4	11.4	7	2.6	13	26.8	72	611.3
Florence	—	—	—	—	28	41.4	33	78.8	80	399.4	6	6.5	4	9.8	3	4.1	2	0.4	156	540.4
Georgetown	2	51.5	2	45.0	19	26.3	54	120.7	78	332.7	16	81.2	5	25.6	15	32.6	8	17.5	199	733.1
Greenville	—	—	—	—	26	45.5	18	37.3	3	7.1	3	1.6	1	0.2	17	13.0	3	0.3	71	105.0
Greenwood	2	1.1	1	0.1	11	14.9	14	20.7	—	—	8	13.6	20	18.0	10	7.6	6	9.7	72	85.7
Hampton	—	—	—	—	10	—	—	—	26	352.3	—	—	1	5.0	2	2.1	3	4.2	42	436.1
Horry	2	5.0	2	2.7	15	17.1	56	118.1	100	203.9	14	9.0	3	10.3	10	13.7	7	3.5	209	383.3
Jasper	—	—	3	22.0	12	21.4	52	597.5	104	788.8	3	3.4	2	2.9	17	61.0	1	1.0	194	1498.0
Kershaw	3	24.0	—	—	16	58.5	17	50.4	10	126.9	8	7.8	3	4.2	6	6.7	6	7.2	69	285.7
Lancaster	—	—	—	—	18	111.0	9	18.8	5	0.8	6	84.8	8	71.3	4	3.5	4	2.9	53	293.1
Laurens	—	—	1	3.0	17	83.7	7	12.8	—	—	1	0.4	23	79.6	3	3.1	8	62.3	60	244.9
Lee	1	0.5	—	—	8	8.9	17	31.5	11	62.6	1	4.0	—	—	2	0.6	4	4.3	44	112.4
Lexington	11	12.9	2	3.2	30	144.0	48	71.8	26	18.2	28	45.8	12	22.2	21	35.1	7	12.5	185	365.7
Marion	—	—	2	6.8	5	17.7	21	48.9	5	13.5	3	12.6	—	—	2	2.1	5	2.5	43	104.1
Marlboro	—	—	1	2.7	9	3.8	32	68.1	22	297.1	3	1.7	6	11.3	14	7.0	5	0.8	92	374.5
McCormick	—	—	1	3.6	13	14.6	3	0.9	—	—	7	12.0	7	26.1	2	0.4	1	0.1	34	57.7
Newberry	1	10.0	—	—	12	8.1	9	71.7	—	—	3	0.4	—	—	4	0.5	1	0.1	30	26.8
Oconee	1	20.0	4	12.7	1	0.3	5	8.4	2	5.5	1	3.0	1	0.5	2	1.2	6	7.8	23	59.4
Orangeburg	—	—	—	—	26	81.4	56	188.5	58	203.2	1	0.5	1	2.0	14	18.1	4	22.2	160	515.9
Pickens	—	—	—	—	7	8.6	17	22.7	7	12.2	7	42.9	2	9.0	6	17.5	7	16.4	53	129.3
Richland	1	20.0	2	5.0	27	48.1	36	51.2	37	71.2	4	7.7	10	8.8	32	40.9	4	5.9	153	258.8
Saluda	—	—	—	—	1	1.0	7	33.0	12	6.6	—	—	—	—	—	—	—	—	20	40.6
Spartanburg	—	—	—	—	29	88.0	4	103.0	2	2.5	1	3.0	4	49.0	—	—	—	—	40	245.5
Sumter	—	—	—	—	2	2.5	21	57.2	54	204.3	1	3.0	5	23.3	7	9.3	8	14.3	98	313.9
Union	—	—	—	—	5	12.5	4	5.0	—	—	1	1.0	5	14.0	1	1.0	2	3.0	18	36.5
Williamsburg	—	—	—	—	1	0.1	47	113.1	186	544.4	10	135.3	2	1.1	6	1.8	1	0.1	253	795.9
York	—	—	2	1.1	5	2.4	11	6.3	8	12.0	4	7.2	12	29.5	3	2.5	4	2.9	49	63.9
TOTAL	41	218.0	35	137.6	635	1660.8	1100	3301.8	1479	7961.7	234	692.6	215	604.2	373	589.0	181	317.5	4,293	15,483.2

* Incendary Fire — A fire willfully set by anyone to burn vegetation or property not owned or controlled by him and without consent of the owner or his agent.

TABLE 4 — FOREST LAND FIRES BY CLASS — FISCAL YEAR 1979-80

County	Class A		Class B		Class C		Class D		Class E		Class F		Class G		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	4	0.6	22	36.8	2	21.0	—	—	—	—	—	—	—	—	28	58.4
Aiken	79	11.8	130	188.1	10	255.0	—	—	—	—	—	—	—	—	219	454.9
Allendale	20	2.5	26	55.1	8	151.0	—	—	—	—	—	—	—	—	54	208.6
Anderson	—	—	48	100.4	1	11.0	—	—	—	—	—	—	—	—	49	111.4
Bamberg	11	1.8	25	36.5	1	12.0	—	—	—	—	—	—	—	—	37	50.3
Barnwell	13	1.9	37	84.9	5	88.0	—	—	—	—	—	—	—	—	55	174.8
Beaufort	11	1.9	40	94.9	4	63.0	1	150.0	—	—	—	—	—	—	56	309.8
Berkeley	52	5.7	229	472.0	18	367.0	—	—	—	—	—	—	—	—	299	844.7
Calhoun	14	1.9	34	63.0	5	70.0	—	—	—	—	—	—	—	—	53	134.9
Charleston	7	1.0	86	246.7	20	315.8	1	269.0	1	370.0	—	—	—	—	115	1,202.5
Cherokee	6	1.2	32	43.4	—	—	—	—	—	—	—	—	—	—	38	44.6
Chester	5	0.7	32	76.5	—	—	—	—	—	—	—	—	—	—	37	77.2
Chesterfield	63	8.7	83	120.7	4	76.0	1	15.0	—	—	—	—	—	—	151	220.4
Clarendon	35	4.5	82	175.0	18	362.0	—	—	—	—	—	—	—	—	135	541.5
Colleton	50	6.2	100	239.2	34	905.0	1	280.0	—	—	—	—	—	—	185	1,430.4
Darlington	35	6.3	82	186.1	5	98.0	—	—	—	—	—	—	—	—	122	290.4
Dillon	31	4.1	33	42.4	—	—	—	—	—	—	—	—	—	—	64	46.5
Dorchester	—	—	58	161.1	12	279.0	—	—	—	—	—	—	—	—	70	440.1
Edgefield	19	2.8	12	23.5	3	98.0	—	—	—	—	—	—	—	—	34	124.3
Fairfield	26	3.6	38	70.3	5	121.4	3	416.0	—	—	—	—	—	—	72	611.3
Florence	26	3.4	118	263.0	12	274.0	—	—	—	—	—	—	—	—	156	540.4
Georgetown	64	7.7	115	241.4	20	484.0	—	—	—	—	—	—	—	—	199	733.1
Greenville	26	3.2	44	86.8	1	15.0	—	—	—	—	—	—	—	—	71	105.0
Greenwood	37	5.1	33	60.6	2	20.0	—	—	—	—	—	—	—	—	72	85.7
Hampton	10	1.3	25	53.8	6	213.0	1	168.0	—	—	—	—	—	—	42	436.1
Horry	58	8.3	142	260.0	9	115.0	—	—	—	—	—	—	—	—	209	383.3
Jasper	31	6.2	123	326.3	37	718.5	3	447.0	—	—	—	—	—	—	194	1,498.0
Kershaw	20	2.4	41	86.3	8	197.0	—	—	—	—	—	—	—	—	69	285.7
Lancaster	21	3.2	24	37.7	8	252.2	—	—	—	—	—	—	—	—	53	293.1
Laurens	9	1.0	45	97.9	6	146.0	—	—	—	—	—	—	—	—	60	244.9
Lee	9	2.2	33	68.2	2	42.0	—	—	—	—	—	—	—	—	44	112.4
Lexington	73	9.5	106	223.2	6	133.0	—	—	—	—	—	—	—	—	185	365.7
Marion	19	2.4	20	33.7	4	68.0	—	—	—	—	—	—	—	—	43	104.1
Marlboro	38	5.5	49	104.0	4	40.0	1	225.0	—	—	—	—	—	—	92	374.5
McCormick	17	2.3	16	40.4	1	15.0	—	—	—	—	—	—	—	—	34	57.7
Newberry	16	2.3	13	14.5	1	10.0	—	—	—	—	—	—	—	—	30	26.8
Oconee	3	0.5	19	38.9	1	20.0	—	—	—	—	—	—	—	—	23	59.4
Orangeburg	30	4.4	116	281.5	14	230.0	—	—	—	—	—	—	—	—	160	515.9
Pickens	1	0.2	51	99.1	1	30.0	—	—	—	—	—	—	—	—	53	129.3
Richland	23	3.4	127	208.4	3	47.0	—	—	—	—	—	—	—	—	153	258.8
Saluda	5	0.9	13	14.7	2	25.0	—	—	—	—	—	—	—	—	20	40.6
Spartanburg	—	—	37	110.5	3	135.0	—	—	—	—	—	—	—	—	40	245.5
Sumter	6	0.7	84	191.2	8	122.0	—	—	—	—	—	—	—	—	98	313.9
Union	—	—	18	36.5	—	—	—	—	—	—	—	—	—	—	18	36.5
Williamsburg	118	13.9	116	228.0	18	426.0	1	128.0	—	—	—	—	—	—	253	795.9
York	12	1.6	37	62.5	—	—	—	—	—	—	—	—	—	—	49	63.9
TOTAL	1,153	158.8	2,794	5,785.5	332	7,070.9	13	2,098.0	1	370.0	—	—	—	—	4,293	15,483.2

TABLE 5 — FOREST LAND FIRES BY COUNTIES AND MONTHS — FISCAL YEAR 1979-80

	July		August		September		October		November		December		January		February		March		April		May		June		Total	
County	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	—	—	1	0.3	—	—	—	—	2	3.2	4	4.6	3	3.9	3	14.7	2	3.5	6	16.5	6	9.9	1	1.8	28	58.4
Aiken	34	107.2	21	30.2	3	6.1	9	4.6	11	86.5	26	17.4	4	4.2	27	28.5	15	45.1	37	72.7	18	43.2	14	9.2	219	454.9
Allendale	6	40.3	2	0.3	—	—	—	—	1	2.0	9	67.0	1	1.0	14	65.7	3	10.7	6	11.2	7	1.9	5	8.5	54	208.6
Anderson	1	1.2	3	3.0	—	—	2	1.0	3	6.4	5	9.1	—	—	15	45.8	6	11.5	6	12.4	3	13.9	5	7.1	49	111.4
Bamberg	3	2.0	—	—	—	—	1	0.2	—	—	4	1.2	1	0.5	14	32.4	2	0.4	2	4.1	4	3.6	6	5.9	37	50.3
Barnwell	1	7.0	—	—	—	—	1	24.0	3	17.3	4	6.9	1	0.2	12	55.6	19	53.9	4	1.0	5	2.8	5	6.1	55	174.8
Beaufort	1	1.0	—	—	—	—	1	0.2	2	0.3	4	14.2	1	3.0	36	263.4	3	13.5	4	12.9	1	0.2	3	1.1	56	309.8
Berkeley	3	1.6	14	6.3	—	—	5	3.6	15	24.8	18	88.3	6	19.6	162	546.0	25	45.8	32	70.5	15	30.2	4	8.0	299	844.7
Calhoun	2	1.8	1	0.1	1	0.2	1	0.1	6	3.0	8	22.3	—	—	8	36.7	3	4.6	6	16.0	5	3.0	12	47.1	53	134.9
Charleston	—	—	2	5.0	—	—	2	4.0	4	20.9	14	42.4	7	13.9	52	270.9	8	39.8	11	89.8	4	5.2	11	710.6	115	1,202.5
Cherokee	—	—	4	2.0	—	—	—	—	1	0.2	5	2.4	—	—	2	2.0	1	1.0	16	28.2	1	0.2	8	8.6	38	44.6
Chester	1	0.1	2	1.2	—	—	1	2.0	—	—	1	0.6	—	—	4	7.5	6	17.3	9	27.7	1	0.1	12	20.7	37	77.2
Chesterfield	10	8.8	4	3.6	—	—	3	14.1	11	13.2	49	25.1	2	4.1	23	90.4	3	10.3	17	19.4	10	6.5	19	24.9	151	220.4
Clarendon	—	—	1	1.0	—	—	2	1.1	3	3.7	11	23.3	2	0.4	59	296.3	11	31.2	16	51.3	19	57.2	11	76.0	135	541.5
Colleton	5	22.2	5	110.1	—	—	—	—	5	10.4	11	33.1	9	4.3	97	976.5	10	84.9	22	71.1	12	56.5	9	61.3	185	1,430.4
Darlington	2	3.0	11	16.5	2	1.4	8	7.2	10	13.8	18	45.6	1	0.1	12	48.7	3	6.0	12	29.9	10	15.9	33	102.3	122	290.4
Dillon	6	3.9	2	1.3	—	—	2	1.1	4	1.5	6	3.8	1	0.2	9	10.7	1	0.4	7	6.1	3	3.7	23	13.8	64	46.5
Dorchester	—	—	—	—	—	—	1	12.0	3	9.0	3	6.5	4	10.5	35	279.1	10	64.0	5	37.5	3	8.5	6	13.0	70	440.1
Edgefield	3	62.7	5	34.7	—	—	1	2.0	1	0.1	3	1.3	—	—	4	0.9	2	0.4	6	15.7	2	3.2	7	3.3	34	124.3
Fairfield	7	4.8	6	11.1	—	—	2	0.5	4	3.3	5	2.2	—	—	16	492.3	2	1.4	20	66.3	12	25.6	8	3.8	72	611.3
Florence	6	10.5	3	20.4	—	—	1	3.0	14	15.2	6	19.6	—	—	53	326.9	13	22.6	33	72.6	11	17.9	16	31.7	156	540.4
Georgetown	9	23.8	16	100.2	—	—	3	2.1	4	26.2	15	70.4	4	4.3	59	173.9	10	41.9	42	177.4	20	40.3	17	67.6	199	733.1
Greenville	3	2.2	5	2.5	—	—	1	0.1	2	3.6	15	12.7	1	2.0	19	29.9	9	10.7	13	38.6	2	2.6	1	0.1	71	105.0
Greenwood	13	13.2	5	8.4	1	0.3	3	3.7	1	2.0	10	15.6	2	0.3	11	15.0	6	5.7	5	7.4	4	4.0	11	10.1	72	85.7
Hampton	1	0.2	1	0.1	1	0.1	—	—	—	—	2	4.0	2	3.5	26	408.8	3	6.6	4	12.2	—	—	2	0.6	42	436.1
Horry	13	14.9	16	23.3	—	—	4	6.8	14	9.3	15	11.5	1	1.0	36	72.3	6	9.8	48	108.2	25	56.4	31	69.8	209	383.3
Jasper	2	24.8	—	—	—	—	2	3.1	3	19.2	27	120.6	17	100.6	93	682.5	26	313.4	17	112.3	4	52.0	3	69.5	194	1,498.0
Kershaw	2	0.3	3	23.0	1	0.4	5	6.9	3	4.7	7	4.9	1	3.0	20	151.9	3	5.1	7	13.1	8	17.4	9	55.0	69	285.7
Lancaster	—	—	2	2.4	1	0.2	—	—	1	0.1	8	19.0	2	2.2	4	87.8	8	69.0	13	68.6	6	14.5	8	29.3	53	293.1
Laurens	4	1.9	3	20.9	—	—	1	3.6	1	0.1	5	1.9	—	—	15	131.7	4	4.0	13	38.8	9	27.2	5	14.8	60	244.9
Lee	—	—	—	—	—	—	1	6.0	3	2.1	6	9.0	—	—	13	25.1	1	2.0	3	42.5	6	1.7	11	24.0	44	112.4
Lexington	9	4.3	19	20.1	6	0.6	8	2.8	11	4.3	17	33.6	2	3.3	32	166.2	21	27.6	20	40.3	19	24.8	21	37.8	185	365.7
Marion	3	14.2	5	4.6	—	—	—	—	7	7.0	5	1.0	1	0.1	10	32.1	—	—	8	43.3	1	0.1	3	1.7	43	104.1
Marlboro	3	0.3	8	5.3	—	—	3	3.2	2	6.6	7	6.2	—	—	13	29.3	4	1.9	22	281.1	12	8.5	18	32.1	92	374.5
McCormick	2	3.9	2	0.8	—	—	3	0.6	2	1.3	3	11.7	2	0.3	4	15.8	5	1.1	8	18.5	1	3.2	2	0.5	34	57.7
Newberry	—	—	1	0.2	—	—	3	1.7	1	0.2	2	0.5	—	—	5	1.4	—	—	5	3.1	5	5.7	8	14.0	30	26.8
Oconee	1	0.2	—	—	—	—	—	—	2	3.7	2	4.5	2	8.3	8	15.1	1	0.8	6	6.8	1	20.0	—	—	23	59.4
Orangeburg	2	3.5	3	2.7	—	—	6	6.3	3	2.3	14	23.5	4	7.2	52	224.0	16	54.9	27	71.1	19	59.9	14	60.5	160	515.9
Pickens	—	—	—	—	—	—	—	—	4	3.3	10	19.5	—	—	21	69.4	5	11.2	10	22.5	1	1.0	2	2.4	53	129.3
Richland	7	5.7	7	36.6	3	3.0	4	3.9	6	7.0	21	23.6	2	3.7	29	63.6	10	34.8	19	23.0	19	35.6	17	18.3	153	258.8
Saluda	—	—	—	—	—	—	—	—	14	8.6	—	—	—	—	1	1.0	—	—	—	2	19.0	3	12.0	20	40.6	
Spartanburg	—	—	2	6.0	—	—	—	—	3	7.0	1	1.0	—	—	18	103.0	3	3.5	4	75.0	7	46.0	2	4.0	40	245.5
Sumter	4	5.9	3	3.6	—	—	1	0.4	2	5.0	12	24.8	2	2.4	21	82.0	9	13.5	12	91.4	14	44.2	18	40.7	98	313.9
Union	1	4.0	2	9.0	—	—	1	1.0	—	—	3	4.5	—	—	3	3.0	—	—	2	3.0	4	8.0	2	4.0	18	36.5
Williamsburg	2	0.6	1	0.2	—	—	6	3.9	6	18.3	45	97.6	9	6.8	95	164.8	16	58.0	39	169.7	22	134.0	12	142.0	253	795.9
York	—	—	—	—	—	—	—	—	1	0.5	5	3.5	—	—	19	24.4	2	0.7	13	29.8	6	4.7	3	0.3	49	63.9
TOTALS	172	402.0	191	517.0	19	12.3	98	136.8	199	377.2	471	962.0	97	214.9	1,284	6,670.0	325	1,144.5	627	2,230.6	369	940.0	441	1,875.9	4,293	15,483.2

* Incendiary Fire — A fire willfully set by anyone to burn vegetation or property not owned or controlled by him and without consent of the owner or his agent.

**TABLE 6 — CLASSIFICATION BY CAUSES
FOREST LAND FIRES
FISCAL YEAR 1979-80**

<i>Causes</i>	<i>Number of Fires</i>	<i>Percent of Total Number</i>	<i>Area Burned (Acres)</i>	<i>Average Area Per Fire (Acres)</i>
Lightning	41	0.96	218.0	5.3
Campfire	35	0.81	137.6	3.9
Smoking	635	14.80	1,660.8	2.6
Debris Burning	1,100	25.62	3,301.8	3.0
Incendiary	1,479	34.45	7,961.7	5.4
Equipment Use	234	5.45	692.6	2.9
Railroad	215	5.00	604.2	2.8
Children	373	8.70	589.0	1.6
Miscellaneous	181	4.21	317.5	1.7
TOTALS	4,293	100.00	15,483.2	3.6

**TABLE 7 — CAUSES OF FIRES — FIVE YEAR PERIOD
(Forest Land)
(Percent of Total)**

<i>Causes</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Lightning	0.3	1.3	1.8	0.7	1.0
Campfire	0.7	0.7	0.6	0.7	0.8
Smoking	12.8	15.9	12.2	14.0	14.8
Debris Burning	22.3	27.0	29.9	29.0	25.6
Incendiary	50.9	37.4	38.8	38.0	34.4
Equipment Use	2.4	3.4	3.0	3.5	5.5
Railroad	2.9	4.4	4.4	3.5	5.0
Children	5.8	6.6	6.2	7.3	8.7
Miscellaneous	1.9	3.3	3.1	3.3	4.2

**TABLE 8 — FORESTLAND FIRES REPORTED IN
SOUTH CAROLINA
Fiscal Year 1979-80**

<i>Unit</i>	<i>Area Protected (Acres)</i>	<i>Number of Fires</i>	<i>Area Burned (Acres)</i>	<i>Percent Area Burned</i>	<i>Average Area Per Fire (Acres)</i>
Abbeville	194,361	28	58.4	.03	2.1
Aiken	477,331	219	454.9	.09	2.1
Allendale	190,786	54	208.6	.10	3.9
Anderson	211,031	49	111.4	.05	2.3
Bamberg	154,047	37	50.3	.03	1.4
Barnwell	161,433	55	174.8	.10	3.2
Beaufort	170,505	56	309.8	.18	5.5
Berkeley	404,049	299	844.7	.21	2.8
Calhoun	131,757	53	134.9	.10	2.5
Charleston	264,643	115	1,202.5	.45	10.4
Cherokee	140,092	38	44.6	.03	1.2
Chester	262,651	37	77.2	.03	2.1
Chesterfield	359,570	151	220.4	.06	1.5
Clarendon	225,189	135	541.5	.24	4.0
Colleton	500,875	185	1,430.4	.28	7.7
Darlington	177,189	122	290.4	.16	2.4
Dillon	146,786	64	46.5	.03	0.7
Dorchester	282,250	70	440.1	.16	6.3
Edgefield	196,105	34	124.3	.06	3.7
Fairfield	375,414	72	611.3	.16	8.5
Florence	291,549	156	540.4	.19	3.5
Georgetown	389,783	199	733.1	.19	3.7
Greenville	286,608	71	105.0	.04	1.5
Greenwood	175,510	72	85.7	.05	1.2
Hampton	283,378	42	436.1	.15	10.4
Horry	494,462	209	383.3	.08	1.8
Jasper	277,557	194	1,498.0	.54	7.7
Kershaw	419,876	69	285.7	.07	4.1
Lancaster	230,775	53	293.1	.13	5.5
Laurens	276,837	60	244.9	.09	4.1
Lee	117,215	44	112.4	.10	2.6
Lexington	302,394	185	365.7	.12	2.0
Marion	228,579	43	104.1	.05	2.4
Marlboro	174,497	92	374.5	.21	4.1
McCormick	143,541	34	57.7	.04	1.7
Newberry	232,222	30	26.8	.01	0.9
Oconee	233,784	23	59.4	.03	2.6
Orangeburg	377,160	160	515.9	.14	3.2
Pickens	217,575	53	129.3	.06	2.4
Richland	311,022	153	258.8	.08	1.7
Saluda	182,185	20	40.6	.02	2.0
Spartanburg	242,131	40	245.5	.10	6.1
Sumter	231,546	98	313.9	.14	3.2
Union	206,601	18	36.5	.02	2.0
Williamsburg	410,339	253	795.9	.19	3.1
York	277,440	49	63.9	.02	1.3
TOTALS	12,050,000	4,293	15,483.2	.13	3.6

**TABLE 9 — FIVE YEAR SUMMARY
FOREST FIRE STATISTICS
(Forest Land Only)**

<i>Fiscal Year</i>	<i>Total Area Protected (Acres)</i>	<i>No. of Fires</i>	<i>Area Burned (Acres)</i>	<i>Percent of Area Burned</i>	<i>Average Area Per Fire (Acres)</i>
1975-76	12,050,000	8,899	75,185.0	.62	8.4
1976-77	12,050,000	6,636	25,138.8	.21	3.8
1977-78	12,050,000	6,836	30,536.4	.25	4.5
1978-79	12,050,000	7,018	23,894.6	.20	3.4
1979-80	12,050,000	4,293	15,483.2	.13	3.6
Five Year Average	12,050,000	6,736	34,047.6	.28	5.1

**TABLE 10
STATE SUMMARY
LAW ENFORCEMENT INFORMATION
Fiscal Year 1979-80**

	<i>Camden</i>	<i>Florence</i>	<i>Kingstree</i>	<i>Newberry</i>	<i>Orangeburg</i>	<i>Spartanburg</i>	<i>Walterboro</i>	<i>STATE TOTALS</i>
PART A. NUMBER OF VIOLATIONS								
1. Willful and Malicious	10	13	8	23	1	8	8	71
2. Intentional	188	240	495	2	187	36	397	1,545
3. Careless and Negligent	223	213	380	200	436	233	300	1,985
4. Other Violations	—	—	1	—	—	—	—	1
5. Total Violations (1-4)	421	466	884	225	624	277	705	3,602
6. Notification Violation	4	1	9	5	8	1	11	39
7. Total All Violations (5 & 6)	425	467	893	230	632	278	716	3,641
8. No Fire Law Violations	177	318	31	264	172	135	74	1,171
PART B. NO. PROSECUTIONS								
1. Willful & Malicious (16-317)	—	—	—	—	—	—	—	—
2. Intentional (16-315)	1	—	—	—	—	—	2	3
3. Careless & Negligent (16-318)	1	6	4	6	3	1	2	23
4. Notification Law (29-65.11-16)	1	1	7	5	3	—	—	17
5. Other Violations	—	—	—	—	—	—	—	—
6. Total	3	7	11	11	6	1	4	43
PART C. NO. CONVICTIONS								
1. Willful & Malicious (16-317)	—	—	—	—	—	—	—	—
2. Intentional (16-315)	—	—	—	—	—	—	2	2
3. Careless & Negligent (16-318)	1	6	4	6	3	1	2	23
4. Notification Law (29-65.11-16)	1	1	7	5	3	—	—	17
5. Other Violations	—	—	—	—	—	—	—	—
6. Total	2	7	11	11	6	1	4	42

TABLE 11
ANNUAL BURNING NOTIFICATION SUMMARY
S. C. State Commission of Forestry
Fiscal Year 1979-80

<i>County</i>	<i>Number Notifications Received</i>	<i>Number Fires Escaped</i>	<i>Number Technical Violations</i>	<i>Number Prosecutions</i>	<i>Number Convictions</i>
Abbeville	843	—	3	4	4
Aiken	4,078	8	10	—	—
Allendale	309	6	—	—	—
Anderson	534	—	—	—	—
Bamberg	510	1	—	—	—
Barnwell	1,133	7	5	—	—
Beaufort	2,115	6	—	—	—
Berkeley	1,731	3	1	—	—
Calhoun	552	14	—	—	—
Charleston	1,694	2	—	—	—
Cherokee	349	—	—	—	—
Chester	290	—	—	—	—
Chesterfield	1,373	9	3	2	2
Clarendon	685	8	—	2	2
Colleton	2,511	22	1	—	—
Darlington	419	4	—	—	—
Dillon	940	—	—	—	—
Dorchester	663	2	1	—	—
Edgefield	193	—	—	—	—
Fairfield	1,350	7	—	1	1
Florence	697	—	—	1	1
Georgetown	1,308	14	—	1	1
Greenville	2,753	3	—	—	—
Greenwood	1,632	4	5	4	4
Hampton	1,181	6	—	—	—
Horry	1,206	6	—	2	2
Jasper	1,152	18	—	4	4
Kershaw	1,913	3	1	2	2
Lancaster	363	3	9	—	—
Laurens	681	1	1	1	1
Lee	343	1	—	—	—
Lexington	4,305	15	1	—	—
Marion	422	1	—	1	1
Marlboro	564	3	—	—	—
McCormick	120	—	—	—	—
Newberry	571	1	—	—	—
Oconee	1,737	—	—	—	—
Orangeburg	1,169	7	—	—	—
Pickens	766	2	—	2	2
Richland	737	—	—	—	—
Saluda	323	1	—	—	—
Spartanburg	895	—	—	—	—
Sumter	1,521	21	—	—	—
Union	60	—	—	—	—
Williamsburg	1,057	10	1	6	6
York	1,619	3	—	—	—
TOTALS	51,035	221	42	33	33

TABLE 12 — NON-FOREST LAND FIRES BY CAUSES
(BY DISTRICT)
Fiscal Year 1979-80

<i>Causes</i>	<i>Camden</i>		<i>Florence</i>		<i>Kingstree</i>		<i>Newberry</i>		<i>Orangeburg</i>		<i>Spartanburg</i>		<i>Walterboro</i>		<i>Total</i>	
	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>	<i>No.</i>	<i>Acres</i>
Lightning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Campfire	—	—	—	0.2	—	—	2	4.3	—	—	—	—	2	2.0	3	6.5
Smoking	5	16.5	27	23.3	16	12.6	24	61.9	11	42.3	26	115.6	15	10.4	124	282.6
Debris Burning	4	23.9	25	92.2	8	22.0	13	31.1	15	69.4	22	79.7	45	260.7	132	579.0
Incendiary	10	37.5	7	14.4	8	51.0	1	79.1	1	25.2	8	40.4	42	357.5	77	605.1
Equipment Use	4	5.7	5	8.7	3	29.6	1	21.2	2	18.7	3	92.0	4	2.7	22	178.6
Railroad	5	186.3	12	4.0	4	0.4	49	43.3	1	5.0	4	6.9	10	5.7	85	251.6
Children	3	15.8	18	41.5	2	3.0	6	21.2	7	10.2	5	49.5	14	35.4	55	176.6
Miscellaneous	—	4.1	3	2.9	1	0.1	14	34.1	4	15.3	4	16.2	3	3.5	29	76.2
TOTAL	31	289.8	97	187.2	42	118.7	110	296.2	41	186.1	72	400.3	134	677.9	527	2,156.2

TABLE 13 — NON-FOREST LAND FIRES BY CAUSE — FISCAL YEAR 1979-80

County	Lightning		Campfire		Smoking		Debris Burning		Incendary*		Equipment Use		Railroad		Children		Miscellaneous		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	—	—	—	—	—	22.5	3	2.0	—	—	—	1.0	9	23.7	1	5.5	1	0.6	14	55.3
Aiken	—	—	—	—	4	3.4	8	30.0	—	—	1	10.7	—	—	1	6.0	2	1.6	16	51.7
Allendale	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	3.9	—	—	4	3.9
Anderson	—	—	—	—	2	45.0	2	1.6	2	24.2	—	5.0	—	3.8	—	4.0	—	1.0	6	84.6
Bamberg	—	—	—	—	—	—	—	3.0	—	—	—	—	—	—	—	—	—	—	—	3.0
Barnwell	—	—	—	—	—	—	—	—	—	—	—	3.0	—	—	—	—	—	—	—	3.0
Beaufort	—	—	—	—	1	1.5	5	29.7	4	163.8	—	—	—	—	—	—	—	—	10	195.0
Berkeley	—	—	—	—	5	7.8	6	13.8	1	3.1	—	—	—	—	1	2.0	—	—	13	26.7
Calhoun	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Charleston	—	—	—	—	—	—	—	—	2	5.8	—	—	—	—	—	—	—	—	2	5.8
Cherokee	—	—	—	—	12	16.2	10	17.1	—	—	1	42.0	2	1.0	2	1.0	—	—	27	77.3
Chester	—	—	1	0.3	3	3.2	—	—	—	—	—	—	6	0.7	1	8.0	—	—	11	12.2
Chesterfield	—	—	—	—	1	11.6	1	5.2	3	19.1	3	4.8	—	162.7	—	—	—	—	8	203.4
Clarendon	—	—	—	—	7	4.4	2	3.2	3	1.1	2	0.5	—	—	1	1.0	—	—	15	10.2
Colleton	—	—	—	—	4	3.2	8	55.1	1	14.0	1	1.0	1	2.0	1	0.1	2	2.2	18	77.6
Darlington	—	—	—	—	—	—	10	37.4	1	7.0	3	4.1	—	—	5	24.7	—	1.0	19	74.2
Dillon	—	—	—	—	14	3.8	2	1.1	3	1.3	—	—	6	1.8	9	1.0	—	—	34	9.0
Dorchester	—	—	—	—	1	0.5	3	41.0	3	10.4	—	—	—	—	—	—	—	1.0	7	52.9
Edgefield	—	—	—	—	1	3.7	—	0.7	—	—	1	0.2	1	0.1	—	—	—	0.5	3	5.2
Fairfield	—	—	1	2.3	6	7.7	2	2.5	1	79.1	—	—	8	3.3	1	0.2	6	13.4	25	108.5
Florence	—	—	—	—	9	14.0	3	29.0	—	4.0	—	—	2	0.6	2	0.5	—	—	16	48.1
Georgetown	—	—	—	—	4	0.4	—	5.0	3	39.3	1	14.1	4	0.4	—	—	1	0.1	13	59.3
Greenville	—	—	—	—	5	29.6	4	28.5	1	2.1	1	6.0	—	—	—	37.3	3	9.6	14	113.1
Greenwood	—	—	—	—	2	0.2	2	7.5	—	—	—	20.0	16	4.3	3	7.6	1	0.1	24	39.7
Hampton	—	—	—	—	—	—	3	2.3	6	1.3	—	—	6	1.6	1	0.1	—	—	16	5.3
Horry	—	—	—	—	1	0.6	3	9.9	—	1.6	1	4.5	—	—	—	—	—	—	5	16.6
Jasper	—	—	1	2.0	9	5.2	26	132.6	26	162.2	3	1.7	3	2.1	12	35.1	1	0.4	82	341.5
Kershaw	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lancaster	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Laurens	—	—	—	0.5	12	23.6	4	8.2	—	—	—	—	4	10.5	—	—	5	19.3	25	62.1
Lee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lexington	—	—	—	—	—	4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4
Marion	—	—	—	0.8	1	1.8	7	14.8	1	0.2	—	—	—	—	1	15.0	—	—	10	32.0
Marlboro	—	—	—	—	2	3.1	—	—	2	0.3	1	0.1	4	1.6	1	0.3	3	1.9	13	7.3
McCormick	—	—	—	1.2	—	1.0	2	10.2	—	—	—	—	5	0.7	—	—	1	0.1	8	13.2
Newberry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oconee	—	—	—	—	—	—	1	3.0	—	—	—	—	—	—	—	—	—	—	1	3.0
Orangeburg	—	—	—	—	7	34.9	7	36.4	1	25.2	1	5.0	1	5.0	2	0.3	2	13.7	21	120.5
Pickens	—	—	—	—	—	—	—	—	—	—	—	30.0	—	—	—	—	—	—	—	30.0
Richland	—	—	—	—	2	4.0	1	3.0	4	6.4	—	—	2	0.4	2	11.1	—	—	11	24.9
Saluda	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spartanburg	—	—	—	—	6	24.0	—	—	2	11.0	1	5.0	1	2.0	1	2.0	—	—	11	44.0
Sumter	—	—	—	—	2	0.9	2	15.7	3	12.0	1	0.9	3	23.3	1	4.7	—	4.1	12	61.5
Union	—	—	—	—	—	—	1	20.0	—	—	—	—	—	—	—	—	—	—	1	20.0
Williamsburg	—	—	—	—	—	—	—	—	1	7.5	—	15.0	—	—	—	—	—	—	1	22.5
York	—	—	—	—	1	0.8	4	9.5	3	3.1	—	4.0	1	0.1	2	5.2	1	5.6	12	28.3
TOTAL	—	—	3	6.5	124	282.6	132	579.0	77	605.1	22	178.6	85	251.6	55	176.6	29	76.2	527	2,156.2

INFORMATION AND EDUCATION

Introduction

South Carolina's 12.5 million acres of forest land provide an annual return of approximately 2 billion dollars in growing, harvesting, manufacturing, transporting and sale of forest products.

The needs of our ever increasing population demand that each forest acre produce the maximum amount of usable wood, protect soil and water supplies, and provide for the recreational needs of the citizens of the state.

Every Forestry Commission employee participates in an education program designed to reach every South Carolinian. Through various means citizens are made aware of their responsibilities to conserve our natural resources so that present and future generations may use and enjoy them to their fullest.

Supporting the state's third largest manufacturing industry, our forests provide a livelihood for thousands of people. Yet the state's woodlands are producing only half of their potential. The aim of the Commission's information and education program is to help the land-owners and people of the state realize the potential value of our woodlands and apply the necessary conservation practices that can double timber production.

The 1978 Forest Survey points to the need for heavy emphasis on improvement of practices on farm and other non-industrial or government-owned woodlands. These lands constitute two-thirds of the commercial forest land of the state but are producing far less than their share of usable wood and wood fiber. Increased production here will serve as the key to the expected demands by the end of this century.

Points stressed in the Commission's information and education efforts in promoting wise land use are:

1. Forest fire protection: Some 4,293 (only 41 caused by lightning) illegal woods fires burned during the year in South Carolina — 99 percent being caused by people!
2. Unwise cutting practices mean low production and inferior forest products.
3. Trees should be planted on some three million acres of idle or unproductive land.
4. Improve the quality of many existing stands of timber throughout the state by removing inferior species and poor quality trees and promoting active interest in a program of superior tree development through genetics.
5. Stress the vital importance of woodlands and good land management practices to the maintenance of good soil, water, and wildlife resources of the state.

6. Develop appreciation in the use, protection, and support of South Carolina's great recreational potential that exists in public and private woodlands to serve the recreational needs of the people of the state.

Forest Fire Prevention

In the Commission's 1929 Annual Report, Lewis E. Staley, then State Forester, said, "While light burning may not kill the larger trees, unquestionably the basis for the future forests — the baby trees — are practically all destroyed. This is an indisputable fact." To this day, it is upon this "indisputable fact," that even little fires kill little trees, that the primary approach of the Commission to forest fire prevention is based. Through a program beginning with personal contacts, the need for preventing wildfires is brought to the attention of every man, woman, and child in the state. Forestry Commission personnel also utilize other media of communication such as posters, pocket and wall calendars, roadside signs, exhibits, publications, illustrated talks, newspaper articles and radio and television programs to bring the conservation message to each citizen of the state. During the year some 1,774 programs of various kinds were presented by Commission personnel to over 72,500 people of all ages. The number of television and radio programs is included; however, the number of viewers or listeners cannot be determined.

During the year, considerable work has been done in problem areas of the coastal plains in helping district and county personnel formulate an intensified educational program and fire prevention plan based on a thorough investigation into causes, attitudes, and habits of local people. Persistent follow-up helps assure that details of plans laid are carried out and that every possible prevention tool is used effectively to bring the occurrence of wildfire and the subsequent loss of valuable woodland down to an acceptable level.

Cooperative Forest Fire Prevention Campaign

The Cooperative Forest Fire Prevention Campaign supplements local materials and programs with those produced in cooperation with the federal government and other states. It reinforces local efforts to reach, in one way or another, every man, woman, and child within the state. This national program, featuring Smokey Bear, is guided by the Advertising Council, Inc., in cooperation with the State Foresters and the U. S. Forest Service. The program is backed by American business as a public service campaign. The advertising agency, Foote, Cone and Belding, of Los Angeles, California volunteers time and services to prepare materials to make the Cooperative Forest Fire Prevention

Campaign one of the nation's most outstanding public service campaigns. Smokey Bear's campaign in South Carolina utilizes a wide variety of materials including posters, booklets, bookmarks, newspaper ads, radio platters, TV films, and other material to bring forest fire prevention information and reminders to people of all ages.

A number of products licensed to use the Smokey Bear symbol, and carrying a forest fire prevention message, provide additional ways of reaching people with fire prevention reminders.

Southern Cooperative Forest Fire Prevention Campaign

Recognizing the need for a more southern slant than the national campaign can provide, the states and the U. S. Forest Service in the South have continued to cooperate in the production of forest fire prevention materials with a southern flavor. The eighteenth year's operation of the southern program saw continued production of recorded radio spots, a series of TV spots, and news ads which are currently being distributed. The southern materials supplement the national materials to intensify and strengthen forest fire prevention efforts in South Carolina.

Fire Prevention Roadside Signs

Fire prevention roadside signs have been seen along South Carolina highways since 1953. The continuing program uses a series of three signs which first shows a cigarette being crushed out in an ashtray with the word CRUSH, second a campfire being drowned out with the word DROWN, and finally Smokey Bear saying "THANKS."

In addition, several seven-foot Scotchlite Smokey Bear signs have been erected in state parks, campgrounds and other appropriate spots. A very attractive smaller roadside type fiberglass sign in "caution yellow" with Smokey's portrait and a forest fire prevention message is also being used in campgrounds and roadside parks.

A new sign, S C. LAW — NOTIFY FIRE TOWER BEFORE BURNING BRUSH, which includes the telephone number to call is now being posted on many rural roads.

School Program

School children throughout the state receive basic information on forestry and forest fire prevention from Forestry Commission foresters, rangers and wardens. Some 329 programs were held in the elementary grades, where schoolyard demonstrations of fire control equipment and suppression techniques, flip charts and color slides were used to help bring the conservation story to the classroom; 21,177 school children

were given basic information about the conservation of our forest resources. This includes Arbor Day demonstrations and slide programs which were held in vocational agriculture classes in each county.

In addition to the slide programs and demonstrations, third grade children throughout the state received copies of the booklet "Smokey Bear's Story of the Forest" and copies of a Smokey Bear coloring sheet. An equal number of first grade students received Smokey Bear coloring sheets with forest fire prevention and conservation messages. Second grade students received a 12-inch rule which carries the metric scale as well. Fourth graders received a schoolyard or classroom demonstration of basic forest fire suppression methods and tools and a booklet "The Junior Forest Ranger Handbook." Fifth graders received copies of a booklet "Our Woodland World."

Movies on forest conservation and forest industries were also shown in schools, bringing conservation information to students of all grade levels.

The Commission's school programs are designed to add to each child's understanding of the total stewardship of life, building toward a stronger and more appreciative community of the future. The programs give basic information to children on the value of woodlands and the care needed to make them produce and contribute to a prosperous future.

Forestry Demonstrations

During the year 11,236 persons attended 218 demonstrations conducted by personnel of the Forestry Commission. These demonstrations covered forest fire protection, correct cutting methods, utilization of forest products, reforestation, control of undesirable species, and timber stand improvement.

In most cases demonstrations were held in cooperation with foresters of various companies, the Clemson University Extension Service, and other groups and organizations.

Arbor Day

Many people, agencies and organizations cooperated to make the observance of 1979 Arbor Day and Conservation Week a success. South Carolina Law designates the first Friday in December as Arbor Day. The State Commission of Forestry, Garden Clubs, Federated Women's Clubs, schools, churches, civic and patriotic organizations, newspapers, radio and television stations and others cooperate in placing the challenge of conservation before the people of South Carolina.

As in the past, a special folder was distributed to schools and other groups to assist them in planning programs and observances for Arbor Day and Conservation Week.

Forestry Commission personnel gave numerous talks at Arbor Day meetings. Many of the programs included tree planting exercises.

Motion Pictures

Motion pictures are valuable aids in teaching conservation and films are often used to supplement talks. Each district office has motion picture equipment which is used for forestry motion picture showings in every county in the state.

This year these films were shown a total of 453 times to over 18,611 people.

Films on forest fire control, forest management, reforestation and other forestry subjects are shown to school and church groups, civic clubs, community organizations and others.

The Forestry Commission maintains a film library making available many forestry and conservation films. These are loaned free of charge to any group, school, or civic organization.

Vocational Agriculture Forestry Program

In 1930 forestry was added as a course of study in vocational agricultural classes in South Carolina. Each year the Agricultural Education staff of the State Department of Education and the State Commission of Forestry work together to teach vocational agriculture students the importance and techniques of forest conservation.

School forest laboratories serve as aids in teaching forestry. They are outdoor classrooms where young men learn by doing. The students construct firebreaks to protect their laboratory from fire. They learn to plant trees, control weed trees, select, measure and estimate merchantable volumes in trees which are to be harvested. Timber in need of cutting is marked and cut by the students in many cases and is sold under contract as the students learn to market forest products. The laboratory is divided into a number of small plots to be worked one each year. One plot is left untreated to compare with plots where good forestry practices are carried out.

Foresters employed by the Forestry Commission throughout the state conducted 16 programs for vocational agriculture teachers and students. These programs were attended by 537 persons.

Resource-Use Education

Resource-use and environmental education continue to stimulate interest in the out-of-doors as an aid to effective teaching, as well as a means of instilling conservation concepts.

The State Commission of Forestry, through its participation in the S. C. Advisory Council on Environmental Education, worked on the "Conservation Curriculum Improvement Project of the State Department of Education."

This project, financed through the Belle W. Baruch Foundation, prepared teaching guides for all school grade levels. The eight guides entitled "A View of the Environment" were especially adapted to:

Grades 1-3

Grades 4-6

Grades 7-9, Social Studies

Grades 10-12, Social Studies

Grades 7-9, Science

Biology

Home Economics

Outdoor Classrooms, Camping and Recreation

These guides were prepared by selected teachers with Dr. Paul B. Brandwein and Dr. Matthew J. Brennan of the Pinchot Institute for Conservation Studies serving as consultants. Representatives of resource agencies served as technical advisors.

Completed guides were used by some 2,000 teachers in schools throughout the state who made recommendations for changes and additions. These were incorporated into the teaching guides during the summer of 1967 by members of the original writing team.

The teaching guides were printed on a commercial basis. South Carolina received 30,000 as a basic supply. Additional copies are being sold by the J. G. Ferguson Publishing Company, with royalties to be paid to the Foundation on all sales.

The 30,000 copies retained in South Carolina were distributed to South Carolina's schools to furnish a copy to every teacher of these subjects in the state.

To help teachers become familiar with the content and use of the guides, week-long workshops were held during the summer of 1968 in five locations throughout the state. Approximately 150 teachers took part in these workshops. Forestry Commission personnel participated on one day of each workshop, explaining the education program and assistance that is available through the State Commission of Forestry.

In early 1970 a Curriculum Consultant for Conservation Education was employed by the State Department of Education. With this person working as secretary to the Advisory Council and with schools and teachers, environmental education is now beginning to grow.

Forestry Commission personnel participated in four teacher's workshops in environmental education during the year. These were held at The Citadel, the University of South Carolina, Coker College and Greenville School District. One hundred students took part.

The lesson plans for environmental investigation and the teacher's guides extend the opportunities for teachers to use the natural resources of the school grounds and adjoining properties as an extension of their classrooms for practical and enjoyable learning.

The S. C. Advisory Council on Environmental Education has been reorganized, has a new format and purpose. Its official name now is "The South Carolina Environmental Education Association, Inc." Forestry Commission personnel are serving in many capacities in the new Association.

Talks

State Commission of Forestry personnel give talks about forestry before many groups. The use of color slides with many of the talks helps make them more interesting and more effective.

During the year 413 talks were made by Commission personnel to 12,421 people. This does not include the talks made in connection with the 5th and 6th grade programs at schools throughout the state. Civic clubs, church groups, school groups, and other organizations were among those requesting talks.

Person-to-person talks with landowners and others continued to be one of the main ways Commission personnel pass along information on forestry to South Carolinians. Important points of contact between personnel of the Commission and the public are the 140 fire towers where 6,714 persons visiting saw the work of detecting, reporting, dispatching, fighting and preventing fires explained or demonstrated.

Exhibits

Exhibits provide an excellent means of disseminating forestry information.

More than 1,559,350 people saw forestry exhibits and displays in fairs, parades, and special meetings as follows:

Exhibits, Floats and Displays for Special Events (Other than County or State Fairs)

<i>Location and Type of Float or Display</i>	<i>Est. Attendance</i>
Sumter (Christmas Parade) Smokey on Ranger's Pickup	15,000
Lancaster (Fire Prevention Parade) Smokey on Tractor & Ranger's Pickup	2,000
Blaney (Catfish Stomp Parade) Smokey on Ranger's Pickup	75,000
Bethune (Homecoming Parade) Smokey on Ranger's Pickup	2,000
Kershaw (Christmas Parade) Smokey on Transport	7,000
Lancaster (Christmas Parade) Smokey on Transport	10,000
Iris Festival Parade — Smokey on Transport	10,000
Darlington (Fire Prevention Parade)	3,000
Hartsville (Christmas Parade)	6,000
Lamar (Christmas Parade)	3,000
Dillon (Christmas Parade)	7,500
Latta (Christmas Parade)	5,000
Florence (Fire Prevention Parade)	3,000
Florence (Christmas Parade)	10,000
Lake City (Fire Prevention Parade)	3,000
Johnsonville (Fire Prevention Parade)	3,000
Olanta (Christmas Parade)	4,000
Pamplico (Fire Prevention Parade)	2,000
Aynor (Christmas Parade)	3,000
Marion (Christmas Parade)	2,000
Brittons Neck (Christmas Parade)	300
Mullins (Christmas Parade)	1,500
Moncks Corner (Christmas Parade) Smokey Bear & Fire Control Unit	20,000
Goose Creek (Fire Prevention Parade) Smokey Bear & Fire Control Unit	12,000
Summerton (Christmas Parade) Smokey Bear & Fire Control Unit	2,000
Georgetown (Low Country Fling) Fire Control Unit	5,000
Kingstree (Old Fashioned Days) Smokey Bear & Fire Control Unit	2,000
Hemingway (Christmas Parade) Smokey Bear & Fire Control Unit	3,000
Kingstree (Homecoming Parade) Smokey Bear & Fire Control Unit	5,000
Abbeville (Christmas Parade) Smokey Bear — Suppression Unit	5,000
Edgefield (Farm City Week) Tree Farm	600
Edgefield (Jaycee Christmas Parade) Smokey Bear — Suppression Unit	7,500
Trenton (Peach Festival) Smokey Bear — Suppression Unit	7,500
Winnsboro (Christmas Parade) Smokey Bear	6,000
Winnsboro (Farm-City Week) Exhibit & Field Day	50
Ridgeway (Christmas Parade) Smokey Bear — Suppression Unit & Ranger Truck	4,000
McCormick (Gold Rush Parade) Smokey Bear — Suppression Unit	2,800
Newberry (Fire Prevention Parade) Smokey Bear — Suppression Unit	5,000
Gaston (Christmas Parade) Smokey on Tractor Unit	4,200
New Ellenton (Christmas Parade) Smokey on Tractor Unit	6,000
Holly Hill (Christmas Parade) Smokey on Tractor Unit	3,000
Bamberg (Christmas Parade) Smokey on Tractor Unit	4,500
Orangeburg (Christmas Parade) Smokey on Tractor Unit	12,000

Barnwell (Christmas Parade) Smokey on Tractor Unit	8,000
Bowman (Christmas Parade) Smokey on Tractor Unit	7,500
Williston (Christmas Parade) Smokey on Tractor Unit	3,500
Denmark (Christmas Parade) Smokey on Ranger's Truck	5,000
Graniteville (Christmas Parade) Smokey on Tractor Unit	4,200
Aiken (Christmas Parade) Smokey on Tractor Unit	11,000
Langley-Bath-Clearwater (Christmas Parade)	
Smokey on Tractor Unit	3,000
Congaree (Christmas Parade) Smokey on Pumper Unit	3,000
Pelion (Christmas Parade) Smokey on Pumper Unit	3,000
Allendale (Christmas Parade) Smokey on Tractor Unit	3,000
Lexington (Christmas Parade) Smokey on Tractor Unit	12,000
Boiling Springs (Christmas Parade)	
Smokey on Tractor Unit	6,000
Springfield (Christmas Parade) Smokey on Tractor Unit	1,500
Rowesville (Christmas Parade) Smokey on Tractor Unit	1,000
Blackville (Christmas Parade) Smokey on Tractor Unit	6,000
Branchville (Railroad Daze) Smokey on Tractor Unit	7,000
Gilbert (Peach Festival) Smokey on Pumper Unit	6,000
Bowman (Farm Festival) Smokey on Tractor Unit	4,000
Ellorree Trials — Smokey on Tractor Unit	5,000
Ehrhardt Schuetzenfest — Smokey on Tractor Unit	10,000
New Ellenton (Atomic Festival) Smokey on Tractor Unit	6,000
St. Matthews (Purple Martin Festival)	
Smokey on Tractor Unit	6,000
Grape Festival Parade — Smokey on Suppression Unit	7,000
Fort Mill (Christmas Parade) Smokey on Suppression Unit	7,000
Clover (Christmas Parade)	
Smokey on Suppression Unit	8,000
York (Christmas Parade) Smokey on Suppression Unit	7,000
Cherokee (Fire Prevention Parade)	
Transport and Tractor Unit	6,000
Anderson (Christmas Parade) Smokey on Ranger's Pickup	10,000
Piedmont (Christmas Parade) Smokey on Ranger's Pickup	4,000
Belton (Christmas Parade) Smokey on Ranger's Pickup	5,000
Williamston (Christmas Parade) Smokey on Ranger's Pickup	4,000
Marietta (Christmas Parade) Smokey on Ranger's Pickup	5,000
Easley (Christmas Parade) Smokey on Ranger's Pickup	10,000
Pickens (Christmas Parade) Smokey on Ranger's Pickup	9,000
Chesnee (Christmas Parade) Smokey on Transport	7,000
Inman (Christmas Parade) Smokey on Transport	5,000
Spartanburg (Christmas Parade) Smokey on Transport	10,000
Boiling Springs (Christmas Parade)	
Smokey on Transport	2,000
Pacelot (Christmas Parade) Smokey on Transport	3,000
Six Mile (Christmas Parade)	
Smokey on Ranger's Pickup	3,000
Charleston (DuPont Chemical Celebration) Smokey	1,500
Charleston (Johns Island Christmas Parade) Smokey	10,000
Charleston (Goose Creek Christmas Parade) Smokey	15,000
Colleton (Walterboro Christmas Parade) Smokey	10,000
Colleton (Rice Festival)	
Growth Cube & Native Woods Exhibit	5,000
Hampton (Hampton Watermelon Parade)	
Ranger's Pickup	20,000
Hampton (Watermelon Festival)	
Native Woods Exhibit	5,000
Jasper (Ridgeland Christmas Parade) Smokey	4,500
Jasper (Hardeeville Christmas Parade) Smokey	6,000
Total Estimated Attendance — Exhibits, Floats and	
Displays for Special Events	605,150

Exhibits at State and County Fairs

<i>County Fair</i>	<i>Type of Exhibit</i>	<i>Est. Attendance</i>
Piedmont Interstate Fair		
(Spartanburg)	Flowers of the Forest	65,000
Marion	Fair Exhibit	15,000
Loris	Fair Exhibit	8,000
Clarendon (Manning)	Common Woods	10,000
Georgetown	Common Woods	12,000
Cherokee		
(Piedmont Fair)	Flowers of the Forest	9,000
Anderson	Flowers of the Forest	73,000
Abbeville	Southern Pine Beetle Display	8,500
Chester	Tree Farm	16,000
Greenwood	Southern Pine Beetle Display	60,000
Laurens	Tree Farm	20,000
McCormick	Southern Pine Beetle Display	6,000
Newberry	Tree Farm	15,000
Camden	Forest Management	5,000
Lancaster	Forest Management	2,500
Sumter	Woods of South Carolina	40,000
Florence	Fair Exhibit	85,000
Berkeley (Moncks Corner)	Common Woods	16,000
Pickens		
(Upper State District)	Flowers of the Forest	80,000
Hampton County Fair	Native Woods Exhibit	3,200
Union County Fair	Flowers of the Forest	25,000
York County Fair	Flowers of the Forest	30,000
Total Estimated Attendance County Fair Exhibits		604,200
State Fair		
Columbia	Forest Panorama	350,000
Total Estimated Attendance Fair Exhibits		954,200
TOTAL — Exhibits, Floats, Displays for Special Events		605,150
GRAND TOTAL		1,559,350

Radio and Television

Radio and television stations in South Carolina cooperate generously with the Forestry Commission by providing air time for many programs and announcements on forest fire prevention, forest management and other phases of forestry.

Several districts have regularly scheduled programs on various radio stations.

A number of television programs were presented on forest fire prevention and other forestry information. Records show that at least 308 live or taped radio and TV programs on forestry were presented during the year. This number does not include the hundreds of recorded programs and film spots carried by radio and television stations, using material made available through the National and Southern Cooperative Forest Fire Prevention Campaigns, and spot announcement material prepared by the Forestry Commission for special use during periods of high fire danger.

News Releases and Articles

Newspapers provided excellent coverage, placing forestry news and information before the people regularly.

During the year Commission personnel prepared 446 news articles. This is not a complete picture of the news coverage that the Commission received during the year. Many times, such as during serious fire situations, news items are telephoned to individual papers and to the wire services. Many stories are written by newspaper editors and reporters.

In addition to news releases, a number of feature articles on forestry were prepared. Photographs or mats illustrating the story were often included with the feature. Commission personnel in every county of the state prepare news articles. In this way, news is localized.

Publications

The State Commission of Forestry utilizes a wide variety of publications to carry out its information and education program. One important function of printed materials is to provide detailed information to those who request forestry information.

Beginning with a Spring (January-February-March), 1979 issue, the Commission publishes an intra-agency quarterly which is designed to keep all Commission employees and County Forestry Board Members abreast of personnel and general Commission activities.

Over the years the Commission has reprinted a number of booklets, folders, leaflets, and other materials.

The Commission also distributes materials published by the U. S. Department of Agriculture, Clemson University, various forest industry companies and associations, and other organizations, groups, and agencies which publish material that is useful and applicable in South Carolina. The use of such material minimizes the need for printing special publications in many cases.

Also, Commission personnel often prepare articles for forestry magazines and other types of periodicals. This gives forestry information widespread distribution at little or no cost to the Commission. In some cases reprints of published articles are purchased to provide for additional distribution.

Sign, Woodworking and Exhibit Shop

The Commission's sign, woodworking and exhibit shop produces signs, exhibits, and other cabinet and carpentry work. The distinctive routed letter signs identify the various installations of the Forestry Commission.

Exhibits constructed in the shop helped to bring forestry information to many people during the year.

